

No. 11965
IN THE
United States Court of Appeals
FOR THE NINTH CIRCUIT

LANE-WELLS COMPANY, a corporation,
Appellant,

vs.

M. O. JOHNSTON OIL FIELD SERVICE CORPO-
RATION,
Appellee.

M. O. JOHNSTON OIL FIELD SERVICE CORPO-
RATION,
Appellant,

vs.

LANE-WELLS COMPANY, a corporation,
Appellee.

TRANSCRIPT OF RECORD

(In 3 Volumes)

VOLUME I

(Pages 1 to 224, Inclusive)

Appeals From the District Court of the United States
for the Southern District of California,
Central Division

FILED
FEB 9 1949

PAUL P. O'BRIEN,

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[Clerk's Note: When deemed likely to be of an important nature, errors or doubtful matters appearing in the original certified record are printed literally in italics; and likewise, cancelled matter appearing in the original certified record is printed and cancelled herein accordingly. When possible an omission from the text is indicated by printing in italics the two words between which the omission seems to occur.]

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In the District Court of the United States
Southern District of California
Central Division

Civil Action No. 5295-WM

M. O. JOHNSTON OIL FIELD SERVICE CORPO-
RATION, a corporation,

Plaintiff,

vs.

LANE-WELLS COMPANY, a corporation,

Defendant.

COMPLAINT

Comes now M. O. Johnston Oil Field Service Corporation, a corporation, plaintiff above named, and for cause of action against defendant Lane-Wells Company, a corporation, alleges:

I.

That the plaintiff M. O. Johnston Oil Field Service Corporation is a corporation duly organized and existing under the laws of the State of California, having its principal place of business at Los Angeles, California. [2]

II.

That the defendant Lane-Wells Company is a corporation duly organized and existing under the laws of the State of Delaware, having a place of business in the County of Los Angeles, State of California, and has designated an agent in the City of Los Angeles, County of Los Angeles, State of California, for service of process in conformity with the laws of the State of California.

III.

That this Court has jurisdiction because:

(a) this Complaint is founded on the patent laws of the United States concerning the validity of Letters Patent of the United States, and the question of their infringement by acts of the plaintiff;

(b) the plaintiff and the defendant are residents of different states and the amount in controversy is in excess of Three Thousand Dollars (\$3,000.00).

Jurisdiction is also conferred by Section 274D of the Judicial Code (Federal Declaratory Judgments Act, Title 28, Section 400 U. S. C.).

IV.

That it appears from the records of the United States Patent Office that on the 4th day of February, 1936, Letters Patent of the United States No. 2,029,491 were granted and issued to The Technicraft Engineering Corporation for Gun Type Formation Tester, and that subsequent to said grant and issuance said grantee duly assigned said Letters Patent to the defendant Lane-Wells Company, and that said defendant Lane-Wells Company, since the assignment, has been and now is vested with the legal title to said Letters Patent No. 2,029,491. Plaintiff hereby makes profert of a certified copy of the said Letters Patent of the United States. [3]

V.

That it appears from the records of the United States Patent Office that on the 7th day of September, 1937, Letters Patent of the United States No. 2,092,337 were granted and issued to The Technicraft Engineering Corporation for Formation Testing Apparatus, and that sub-

sequent to said grant and issuance said grantee duly assigned said Letters Patent to the defendant Lane-Wells Company, and that said defendant Lane-Wells Company, since the assignment, has been and now is vested with the legal title to said Letters Patent No. 2,092,337. Plaintiff hereby makes profert of a certified copy of the said Letters Patent of the United States.

VI.

That plaintiff M. O. Johnston Oil Field Service Corporation has been for many years and now is engaged in the business of designing, manufacturing, selling and operating special tools for use in connection with formation testing and sampling in oil well bores and in gun devices for perforating the casing of oil well bores, and that prior hereto, at great expense, designed and developed an apparatus for perforating the casing in an oil well bore and thereafter entrapping a sample of well fluid entering the casing through the perforations so formed, which apparatus is known as the Johnston Perforator and Formation Tester. That plaintiff has heretofore spent large sums of money in producing said apparatus in commercial quantities and now has a substantial investment therein and intends to continue to manufacture said apparatus in large and constantly increasing quantities and is now so engaged. That plaintiff has built a large and profitable business in the operation and use of said apparatus and a valuable good will in connection therewith, which business is constantly increasing. That plaintiff further alleges that its ability to continue to manufacture the said device and commercially operate and use the same in [4] oil wells is of great importance to plaintiff and to the oil industry.

VII.

That in the event that claims numbered 7, 8, 9, 11, 12, 13 and 14 of Letters Patent No. 2,029,491 and claims 5, 7, 9, 10, 13, 14, 15 and 18 of Letters Patent No. 2,092,337 are valid and interpreted and applied literally as worded, that the same can be read upon the Johnston Perforator and Formation Tester manufactured, operated and used by this plaintiff and would be infringed thereby.

VIII.

That the defendant Lane-Wells Company has at all times held out to the public, and is now so holding out, that said United States Letters Patent Nos. 2,029,491 and 2,092,337 are valid and of a scope of sufficient breadth to include apparatus such as the said Johnston Perforator and Formation Tester manufactured, operated and used by this plaintiff, as aforesaid.

IX.

That due to this holding out of the aforesaid patents to the public as being valid and of a scope sufficient to include apparatus such as the said plaintiff's Johnston Perforator and Formation Tester, plaintiff is informed and believes and on information and belief alleges that many oil well operators will refuse to use plaintiff's said Johnston Perforator and Formation Tester because of a fear that an action for infringement of the aforesaid patents may be brought against them. That, therefore, the existence of said patents and the holding out thereof as of a scope and valid, as aforesaid, has been and will continue to constitute a restraint on the development of plaintiff's business in the said Johnston Perforator and Formation Tester, all to plaintiff's damage.

X.

That the existence of an opposing claim based upon the [5] aforesaid Letters Patent of the United States against plaintiff disturbs the peace and freedom of plaintiff in its business in connection with said Johnston Perforator and Formation Tester and places plaintiff in a position of uncertainty and doubt as to its legal position with respect to said patents, and impairs or jeopardizes its pecuniary interests in its business in connection with said Johnston Perforator and Formation Tester.

XI.

Plaintiff is informed and believes and, therefore, on information and belief alleges that said defendant Lane-Wells Company will delay bringing action for infringement against plaintiff under said patents until large potential damages are built up by plaintiff in its business in connection with said Johnston Perforator and Formation Tester, thus placing plaintiff in a position of uncertainty and jeopardy with respect to said business.

XII.

That there is a substantial and actual controversy between plaintiff and defendant Lane-Wells Company as to the validity and scope of the aforesaid Letters Patent Nos. 2,029,491 and 2,092,337, and as to their infringement by plaintiff and plaintiff's customers and dealers in plaintiff's aforesaid Johnston Perforator and Formation Tester. That plaintiff has no other adequate and complete remedy than by this petition for a declaratory judgment to deter-

mine the respective rights of plaintiff and defendant with respect to the questions of validity and infringement of the aforesaid Letters Patent Nos. 2,029,491 and 2,092,337, and thereby to determine the respective rights of plaintiff and defendant so that such determination will be res adjudicata and final as between plaintiff and defendant.

XIII.

That plaintiff is informed and believes and on information and belief alleges that said patents Nos. 2,029,491 and [6] 2,092,337 are invalid in that the things alleged to be described and patented in and by said patents were not inventions and did not require the, or any, exercise of the inventive faculty for their production and were not patentable, and that, therefore, said alleged patents Nos. 2,029,491 and 2,092,337 are null and void and of no effect.

XIV.

That plaintiff is informed and believes and on information and belief alleges that said patents Nos. 2,029,491 and 2,092,337 are invalid in that the things alleged to be described and patented in and by said patents are inoperative.

XV.

Plaintiff is informed and believes and on information and belief alleges that said patents Nos. 2,029,491 and 2,092,337 are invalid in that the things purportedly patented thereby are not distinctly pointed out, described and claimed, as required by the statutes of the United States.

XVI.

That plaintiff is informed and believes and on information and belief alleges that said patents Nos. 2,029,491 and 2,092,337 are invalid, particularly as to claims 7, 8, 9, 11, 12, 13 and 14 of patent No. 2,029,491 and claims 5, 7, 9, 10, 13, 14, 15 and 18 of patent No. 2,092,337, in that said claims are vague, ambiguous and do not define or distinctly claim the alleged invention, as required by the statutes of the United States.

XVII.

That plaintiff is informed and believes and on information and belief alleges that said patents Nos. 2,029,491 and 2,092,337 are null, void and of no effect because of double patenting.

XVIII.

That plaintiff is informed and believes and on information and belief alleges that each and every material and substantial [7] part of the apparatus and things pretended to be patented by the said defendant's Letters Patent Nos. 2,029,491 and 2,092,337 had been invented, known and publicly used, and had been on public sale and sold and had been known and used by various persons, firms and corporations and in various sundry places in the United States of America for more than two years prior to the date of the applications for said Letters Patent, the exact names and locations of which are at present unknown to plaintiff but which names and places plaintiff prays leave to insert herein by amendment when ascertained.

XIX.

That plaintiff is informed and believes and on information and belief alleges that the person or persons named as the inventor or inventors in said Letters Patent Nos. 2,029,491 and 2,092,337 are not the first, or any, inventor or inventors of the things disclosed in said Letters Patent and that, therefore, said Letters Patent are invalid.

XX.

That plaintiff is informed and believes and on information and belief alleges that the defendant is estopped by the proceedings in the United States Patent Office in the matter of the applications of the applicants for said Letters Patent Nos. 2,029,491 and 2,092,337, and the acquiescence of said applicants in and to the rulings and rejections of the Commissioner of Patents in the negotiations for said Letters Patent, and in and by the limitations imposed thereby during the negotiations in the United States Patent Office leading up to the grant and issuance of said Letters Patent, from claiming any scope or subject matter of said alleged Letters Patent, or any of the claims thereof, as would comprehend or embrace any apparatus or devices manufactured, sold or used by this plaintiff. [8]

XXI.

That plaintiff is informed and believes and, therefore, on information and belief alleges that its said Johnston Perforator and Formation Tester, aforesaid, or any of the uses thereof, do not infringe the defendant's patents Nos. 2,029,491 and 2,092,337, or any of the claims thereof.

Wherefore Plaintiff Prays:

1. That the defendant be required to appear and answer this Complaint.

2. For a declaratory decree declaring each of said Letters Patent Nos. 2,029,491 and 2,092,337, and each of the claims thereof, to be invalid and void in law.

3. For a declaratory decree specifically declaring claims 7, 8, 9, 11, 12, 13 and 14 of patent No. 2,029,491 and claims 5, 7, 8, 10, 13, 14, 15 and 18 of patent No. 2,092,337 to be invalid and void in law.

4. For a declaratory decree declaring that said Letters Patent Nos. 2,029,491 and 2,092,337 are not infringed by plaintiff because of the manufacture, sale or use of plaintiff's apparatus Johnston Perforator and Formation Tester manufactured, sold and used by plaintiff.

5. For a preliminary injunction enjoining the defendant, its associates, partners, attorneys, clerks, servants, agents, employees and confederates, and all in privity with them, and each of them, from threatening any of plaintiff's customers or dealers, or any present or prospective sellers, dealers or users of plaintiff's Johnston Perforator and *Formation*, with infringement litigation, or charging plaintiff or any of such customers, dealers or users, either verbally or in writing, with or notifying them of infringement of Letters Patent Nos. 2,029,491 and 2,092,337 if they should sell or offer for sale or use, or permit the use on their properties of plaintiff's Johnston Perforator and Formation Tester, [9] and pending the

determination of this suit be restrained and enjoined from commencing in this or in any other Court against any of the customers or dealers or any prospective customers or dealers of plaintiff, any suit for alleged infringement of the Letters Patent here in suit, to-wit, Nos. 2,029,491 and 2,092,337, because of the making, using or selling or offering for sale plaintiff's Johnston Perforator and Formation Tester.

6. For a permanent injunction of the same purport and tenor as the preliminary injunction herein prayed for.

7. That plaintiff have its costs and disbursements herein.

8. That plaintiff have such other, further or different relief as the Court may deem appropriate in the premises.

M. O. JOHNSTON OIL FIELD SERVICE
CORPORATION

By M. O. Johnston
President

HILL, MORGAN & FARRER
WILLIAM M. FARRER
MELLIN AND HANSCOM
OSCAR A. MELLIN

Attorneys for Plaintiff

[Verified.] [10]

[Endorsed]: Filed Apr. 10, 1946. Edmund L. Smith,
Clerk. [11]

[Title of District Court and Cause]

NOTICE OF AND MOTION FOR MORE DEFINITE
STATEMENT AND BILL OF PARTICULARS
UNDER RULE 12(e), R. C. P.

To M. O. Johnston Oil Field Service Corporation, Plaintiff; and Hill, Morgan & Farrer, William M. Farrer, Mellin and Hanscom, and Oscar A. Mellin, its attorneys:

Please Take Notice that on Monday, September 30, 1946, at the hour of ten o'clock a. m., or as soon thereafter as counsel can be heard, in the courtroom of the Honorable William C. Mathes, in the Post Office and Court House Building, Los Angeles, California, the Defendant in the above entitled action will bring on for hearing the following motion for a more definite statement and a bill of particulars, pursuant to Rule 12(e) of the Rules of Civil Procedure.

The Defendant moves the Court for an order requiring the Plaintiff to serve and file a more definite statement and a bill of particulars in compliance with the following requests. [12]

1.

Particularize with respect to the general allegations of Paragraph XIII of the complaint that the two patents specified are invalid "in that the things alleged to be described and patented in and by said patents were not inventions and did not require the, or any, exercise of the inventive faculty for their production and were not patentable" by stating:

(a) Each ground upon which Plaintiff will rely at the trial to establish that such things were not

inventions and did not require any exercise of the inventive faculty for their production.

(b) The number and date of issue of each patent, and the title and date of each publication, upon which Plaintiff will rely at the trial to establish that such things were not inventions and did not require any exercise of the inventive faculty for their production.

(c) The names and residences of each person upon whom Plaintiff will rely at the trial as having invented, or having had prior knowledge of, or having used or sold or offered for sale the things patented by said patents to establish that such things were not inventions and did not require any exercise of the inventive faculty for their production.

2.

Particularize with respect to the general allegations of Paragraph XIV of the complaint that the two patents specified "are invalid in that the things alleged to be described in and by said patents are inoperative" by stating separately with respect to each such patent each respect in which the things described and patented in and by such patents are inoperative upon which [13] Plaintiff will rely at the trial.

3.

Particularize with respect to the general allegation of Paragraph XV of the complaint that the two patents specified "are invalid in that the things purportedly patented thereby are not distinctly pointed out, described

and claimed, as required by the statutes of the United States” by stating separately with respect to each such patent:

(a) Each respect in which the things patented by such patent are not distinctly pointed out and described as required by the statutes of the United States, upon which Plaintiff will rely at the trial.

(b) Each respect in which the things patented by such patent are not distinctly claimed as required by the statutes of the United States, upon which Plaintiff will rely at the trial.

4.

Particularize with respect to the general allegation of Paragraph XVI of the complaint that the two specified patents, and particularly certain claims thereof, are invalid “in that said claims are vague, ambiguous and do not define or distinctly claim the alleged invention, as required by the statutes of the United States” by stating separately as to each of such patents and each of the claims specified in such paragraph each respect in which such claim is vague or ambiguous and does not define or distinctly claim the alleged invention as required by the statutes of the United States, upon which Plaintiff will rely at the trial. [14]

5.

Particularize with respect to the general allegation of Paragraph XVII of the complaint that the patents specified “are null, void and of no effect because of double patenting” by stating separately with respect to each of such patents the number and date of issue of each patent upon which Plaintiff will rely at the trial to establish such double patenting.

6.

Particularize with respect to the general allegation of Paragraph XVIII of the complaint that "each and every material and substantial part of the apparatus and things pretended to be patented by the said defendant's Letters Patent Nos. 2,029,491 and 2,092,337 had been invented, known and publicly used, and had been on public sale and sold and had been known and used by various persons, firms and corporations and in various sundry places in the United States of America for more than two years prior to the date of the applications for said Letters Patent" by stating:

(a) The name of each patentee, the number of each patent, and the date of issue upon which Plaintiff will rely at the trial to establish such prior invention, knowledge, and use.

(b) The name and residence of each person upon whom Plaintiff will rely at the trial as having made such prior invention or as having such prior knowledge.

(c) The name and address of each person, firm, or corporation upon which Plaintiff will rely at the trial to establish such prior use.

(d) The name and address of each person, firm, or corporation upon which Plaintiff will rely at the trial to establish such offering for sale and sale. [15]

7.

Particularize with respect to the general allegation of Paragraph XIX of the complaint that "the person or persons named as the inventor or inventors in said Letters Patents Nos. 2,029,491 and 2,092,337 are not the first,

or any, inventor or inventors of the things disclosed in said Letters Patent" by stating:

(a) The name of each patentee, the number of each patent, and the date of issue upon which Plaintiff will rely at the trial to establish such allegation.

(b) The title and date of issue of each publication upon which Plaintiff will rely at the trial to establish such allegation.

(c) The name and residence of each person upon whom Plaintiff will rely at the trial to establish prior invention, knowledge, use, or sale in support of such allegation.

8.

Particularize with respect to the general allegation of Paragraph XX of the complaint that, by virtue of proceedings in the United States Patent Office relating to the applications for the patents specified, and by virtue of "the limitations imposed thereby during the negotiations in the United States Patent Office," the Defendant is estopped "from claiming any scope or subject matter of said alleged Letters Patent, or any of the claims thereof, as would comprehend or embrace any apparatus or devices manufactured, sold or used by this plaintiff" by stating each limitation of each claim upon which Plaintiff at the trial will rely in support of such allegation.

The foregoing particulars are necessary, because, as will be apparent from the nature of the allegations of the complaint [16] referred to, their subject matter is not averred with sufficient definiteness or particularity to

enable Defendant either to properly prepare its responsive pleading or to prepare for trial.

The Defendant attempted to secure the particulars sought by this motion by twice taking the deposition of Mr. M. O. Johnston, president of the Plaintiff company, who verified the complaint. In his first deposition, taken June 27, 1946, by consent of the Plaintiff, Mr. Johnston was asked questions substantially identical with the requests here made and declined to answer such questions on the advice of his counsel.

In the second deposition of Mr. Johnston, taken September 3, 1946, by consent of the Plaintiff, after service of a motion to compel answers, Mr. Johnston was again asked questions substantially identical with these requests but was able to provide no such particulars. Typical of Mr. Johnston's replies to such questions is the following:

"Q The next question from your former deposition:

'Paragraph 17 asserts, "That plaintiff is informed and believes and on information and belief alleges that said patents Nos. 2,029,491 and 2,092,337 are null, void, and of no effect because of double patenting."

'Please identify the patents upon which each of the patents specified in the complaint is null and void and of no effect because of double patenting.'

"A I was again advised by my attorney. I don't know about double patenting.

“Q Did he advise you of any patent upon which either of the patents in suit was invalid for double patenting, and if so tell the numbers of such patents. [17]

“A I don’t remember that he did.

“Q And you were informed with respect to this double patenting only by your attorney?

“A Yes, sir.

“Q And when you refer to your ‘attorneys,’ you mean your counsel in this present suit, I take it?

“A Yes.” (p. 120, l. 11 to p. 121, l. 4)

In support of the foregoing motion Defendant will rely upon the complaint herein, the said depositions of Mr. Johnston, and the following points and authorities.

Dated: At Los Angeles, California, this 12th day of September, 1946.

HARRIS, KIECH, FOSTER & HARRIS

By Ward D. Foster

Attorneys for Defendant [18]

Received copy of the within this 12 day of Sept. 1946. Hill, Morgan & Farrer and Mellin & Hanscom, by W. M. Farrer, Attorneys for Plaintiff.

[Endorsed]: Filed Sep. 12, 1946. Edmund L. Smith, Clerk. [19]

[Title of District Court and Cause]

PLAINTIFF'S MORE DEFINITE STATEMENT
AND BILL OF PARTICULARS

Comes now the plaintiff in the above entitled action and in answer to defendant's demand for a more definite statement and bill of particulars under rule 12(e) R. C. P. hereby submits the following particulars: [20]

Answer to Demand 1

(a) As now advised, plaintiff will contend at the trial that the act or acts of connecting a well tester, a packer and a gun perforator together as illustrated, described, claimed and allegedly patented in and by the patents in suit did not require the, or any, exercise of the inventive faculty and was not patentable.

(b) As presently advised, plaintiff will rely at the trial upon the patents or publications set out herein in Answer to Demand 6(a) to establish that such things were not inventions and did not require the exercise of the inventive faculty for their production.

(c) As now advised, plaintiff will rely at the trial upon the patentees of the patents set out herein in Answer to Demand 6(a) as having invented, or having prior knowledge of, or having used or sold or offered for sale the things patented by said patents to establish that such things were not inventions and did not require any exercise of the inventive faculty for their production.

Answer to Demand 2

As now advised, plaintiff will contend at the trial that the devices illustrated and described in each of the patents in suit will not operate or function as described or illustrated in such patents, and that the particular respects in which such devices are inoperative are those set forth in detail in the deposition of M. O. Johnston taken by this defendant heretofore. [21]

Answer to Demand 3

(a) As now advised, plaintiff will contend at the trial that the claims of each of the patents in suit do not satisfy the requirements of R. S. 4888 of the United States, in that such claims of those patents do not in any respect particularly point out and distinctly claim the part, improvement or combination which the patentees claim as their invention or discovery.

(b) The answer to this request is the same as (a) above.

Answer to Demand 4

The answer to this request is the same as 3(a) above.

Answer to Demand 5

As now advised, plaintiff will contend at the trial that patent in suit No. 2,092,337 is invalid, null and void and of no effect because of double patenting and to establish such defense plaintiff will rely on patent No. 2,029,491.

Answer to Demand 6

(a) As now advised plaintiff will rely on the following patentees of the following numbered patents, residing at the places set forth in the said patents, and the dates of issue of said patents:

Burr et al	68,350	Sept.	3, 1867
Franklin	263,330	Aug.	29, 1882
Cooper	1,000,583	Aug.	15, 1911
Cox	1,347,534	July	27, 1920
Halliday	1,474,630	Nov.	20, 1923
Edwards	1,514,585	Nov.	4, 1924 [22]
Steele	1,602,864	Oct.	12, 1926
Miller	1,837,788	Dec.	22, 1931
Fortune	1,853,557	Apr.	12, 1932
Johnston	1,901,813	Mar.	14, 1933
Simmons	1,930,987	Oct.	17, 1933
Anderson	39,787	Sept.	8, 1863
Mims	1,582,184	Apr.	27, 1926
Greene	1,641,483	Sept.	6, 1927
Rembert	1,835,722	Dec.	8, 1931
Prikel	2,022,976	Dec.	3, 1935
Prikel	2,026,061	Dec.	31, 1935
Haines	2,029,478	Feb.	4, 1936
O'Neill	2,034,768	March	24, 1936
Spencer	2,037,938	Apr.	21, 1936
Wells	2,037,955	Apr.	21, 1936
Ridley	2,041,209	May	19, 1936
Johnston	2,048,451	July	21, 1936
Schlumberger	2,055,506	Sept.	29, 1936
Lane	2,062,974	Dec.	1, 1936

Lane	2,062,975	Dec.	1, 1936
Turechek	2,092,294	Sept.	7, 1937
Lane	2,092,317	Sept.	7, 1937
Metzner	2,142,572	Jan.	3, 1939
Yarbrough	2,142,583	Jan.	3, 1939
Mack	724,904	Apr.	7, 1903
Frederickson	1,015,432	Jan.	23, 1912
Le Bus	1,577,474	March	23, 1926
Fondren	1,615,690	Jan.	25, 1927
Wood	1,779,652	Oct.	28, 1930
Jones	1,847,613	March	1, 1932 [23]
Moss et al	1,910,851	May	23, 1933
Martois	1,941,703	Jan.	2, 1934
Crowell	Re. 16,577	Mar.	29, 1927
Neitzel	Re. 16,991	June	12, 1928
Hemme	976,737	Nov.	22, 1910
Meyer	1,018,333	Feb.	20, 1912
Mack	1,109,078	Sept.	1, 1914
Burstall	1,710,203	Apr.	23, 1929
Shepard et al	1,766,766	June	24, 1930

(b) The answer to this request is the same as (a) hereof.

(c) The answer to this request is the same as (a) hereof.

(d) The answer to this request is the same as (a) hereof.

Answer to Demand 7

(a) As now advised, plaintiff will contend at the trial that in addition to the fact that it required no invention to produce the devices of the patents in suit and, there-

fore, the alleged inventors thereof were not the first, or any, inventors thereof, that the person or persons named as the inventor or inventors in the Letters Patent in suit are not the first, or any, inventor or inventors of the things disclosed in said Letters Patent because said things had been invented by each of the patentees of the patents identified by number and date of issue set out in Answer 6(a) hereof.

(b) The title and date of issue of each of the patents set out in the list of patents in Answer 6(a) hereof.

(c) The names and residences of the patentees set forth in [24] the patents listed in Answer 6(a) hereof.

Answer to Demand 8

As now advised, plaintiff will contend at the trial that each and every of the acts of the applicants for the Letters Patent in suit in canceling claims, in amending claims, and in the submission of new and different claims during the proceedings in the United States Patent Office as set forth in the documents constituting such proceedings will be relied upon at the trial in support of the allegations in paragraph XX of the complaint.

HILL, MORGAN & FARRER
WILLIAM M. FARRER
MELLIN AND HANSCOM
OSCAR A. MELLIN

Attorneys for Plaintiff

Dated: September 27, 1946.

Received copy of the within Plaintiff's More Definite Statement and Bill of Particulars, this 27 day of September, 1946. Harris, Kiech, Foster & Harris, Ward D. Foster, Attorneys for Defendant.

[Endorsed]: Filed Sep. 27, 1946. Edmund L. Smith, Clerk. [25]

[Title of District Court and Cause]

ANSWER TO COMPLAINT AND COUNTER-
CLAIM FOR INFRINGEMENT OF UNITED
STATES LETTERS PATENT NOS. 2,029,491
AND 2,092,337

Comes now the Defendant above named and, for its answer to the Complaint heretofore filed, admits, denies, and alleges as follows:

I.

Answering Paragraph I of the Complaint, Defendant is without knowledge or information sufficient to form a belief as to the truth of the averments of said paragraph.

II.

Answering Paragraph II of the Complaint, Defendant admits the allegations of said paragraph. [26]

III.

Answering Paragraph III of the Complaint, Defendant admits that the Complaint is founded on the Patent Laws of the United States concerning the validity of Letters Patent of the United States and the question of their infringement by acts of the Plaintiff; Defendant is without knowledge or information sufficient to form a belief as to the truth of the averments that the Plaintiff and the Defendant are residents of different states or the averment that the amount in controversy is in excess of Three Thousand Dollars (\$3,000.00); and Defendant admits that jurisdiction is conferred by Section 274D of the Judicial Code (Federal Declaratory Judgments Act, Title 28, Section 400 U. S. C.).

IV.

Answering Paragraph IV of the Complaint, Defendant admits that it appears from the records of the United States Patent Office that, and alleges that, on the 4th day of February, 1936, Letters Patent of the United States No. 2,029,491 were granted and issued to The Technicraft Engineering Corporation, for Gun Type Formation Tester, and, subsequent to said grant and issuance, said grantee duly assigned said Letters Patent to the Defendant, Lane-Wells Company, and said Defendant, Lane-Wells Company, since the assignment, has been, and now is, vested with the legal title to said Letters Patent No. 2,029,491 and all causes of action for infringement thereof.

V.

Answering Paragraph V of the Complaint, Defendant admits that it appears from the records of the United States Patent Office that, and alleges that, on the 7th day of September, 1937, Letters Patent of the United States No. 2,092,337 were granted and issued to The Technicraft Engineering Corp., for Formation Testing [27] Apparatus, and, subsequent to said grant and issuance, said grantee duly assigned said Letters Patent to the Defendant, Lane-Wells Company, and said Defendant, Lane-Wells Company, since the assignment, has been, and now is, vested with the legal title to said Letters Patent No. 2,092,337 and all causes of action for infringement thereof.

VI.

Answering Paragraph VI of the Complaint, Defendant admits that Plaintiff, M. O. Johnston Oil Field Service Corporation, has been, and now is, engaged in the busi-

ness of operating special tools for use in connection with formation testing and sampling in oil well bores and in gun devices for perforating the casing of oil well bores; Defendant is without knowledge or information sufficient to form a belief as to the truth of the averment that Plaintiff, M. O. Johnston Oil Field Service Corporation, has been for many years engaged in the business of operating special tools for use in connection with formation testing and sampling in oil well bores and in gun devices for perforating the casing of oil well bores or the averment that Plaintiff, M. O. Johnston Oil Field Service Corporation, has been for many years, or at all, or now is, engaged in the business of designing, manufacturing, or selling special tools for use in connection with formation testing and sampling in oil well bores and in gun devices for perforating the casing of oil well bores; Defendant is without knowledge or information sufficient to form a belief as to the truth of the averment that, prior hereto, Plaintiff, M. O. Johnston Oil Field Service Corporation, at great, or any, expense designed or developed an apparatus for perforating the casing in an oil well bore and thereafter entrapping a sample of well fluid entering the casing through the perforations so formed, which apparatus is known as the Johnston Perforator and Formation Tester, or otherwise; Defendant [28] is without knowledge or information sufficient to form a belief as to the truth of the averment that Plaintiff has heretofore spent large, or any, sums of money in producing said apparatus in commercial quantities or the averment that Plaintiff now has a substantial investment therein; and Defendant admits that Plaintiff intends to manufacture apparatus for perforating the casing in an oil well bore and thereafter entrapping

a sample of well fluid entering the casing through the perforations so formed in large and constantly increasing quantities and is now so engaged.

Defendant is without knowledge or information sufficient to form a belief as to the truth of the averment that Plaintiff has built a large or profitable, or any, business in the operation or use of said apparatus or valuable good will in connection therewith or the averment that such business is constantly increasing.

Defendant is without knowledge or information sufficient to form a belief as to the truth of the averment that Plaintiff's ability to continue to manufacture the said devices, or commercially operate, or use the same, in oil wells, is of great, or any, importance to the Plaintiff or to the oil industry.

VII.

Answering Paragraph VII of the Complaint, Defendant admits that, in the event that claims numbered 7, 8, 9, 11, 12, 13, and 14 of Letters Patent No. 2,029,491 and claims 5, 7, 9, 10, 13, 14, 15, and 18 of Letters Patent No. 2,092,337 are valid and interpreted and applied literally as worded, the same can be read upon the Johnston Perforator and Formation Tester manufactured, operated, and used by the Plaintiff and are infringed thereby.

VIII.

Answering Paragraph VIII of the Complaint, Defendant denies each and every allegation thereof. [29]

IX.

Answering Paragraph IX of the Complaint, Defendant denies that, due to its alleged holding out of the aforesaid, or any, patents to the public as being valid or of a

scope sufficient to include apparatus such as Plaintiff's Johnston Perforator and Formation Tester, any oil well operators will refuse to use Plaintiff's Johnston Perforator and Formation Tester because of a fear that an action for infringement of the aforesaid patents may be brought against them. Defendant denies that the existence of said patents or its alleged holding out thereof as of a scope and valid as aforesaid, or otherwise, has been, or will be, to constitute a restraint on the development of Plaintiff's business in the said Johnston Perforator and Formation Tester, to Plaintiff's damage, or otherwise.

X.

Answering Paragraph X of the Complaint, Defendant is without knowledge or information sufficient to form a belief as to the truth of any of the averments of said paragraph.

XI.

Answering Paragraph XI of the Complaint, Defendant denies each and every averment thereof.

XII.

Answering Paragraph XII of the Complaint, Defendant admits that there is a substantial and actual controversy between Plaintiff and Defendant as to the validity and scope of United States Letters Patent Nos. 2,029,491 and 2,092,337 and as to their infringement by Plaintiff and Plaintiff's consumers and dealers in Plaintiff's aforesaid Johnston Perforator and Formation Tester and is without knowledge or information sufficient to form a belief as [30] to the truth of each and every of the other averments of said paragraph.

XIII.

Answering Paragraph XIII of the Complaint, Defendant denies each and every averment thereof.

XIV.

Answering Paragraph XIV of the Complaint, Defendant denies each and every averment thereof.

XV.

Answering Paragraph XV of the Complaint, Defendant denies each and every averment thereof.

XVI.

Answering Paragraph XVI of the Complaint, Defendant denies each and every averment thereof.

XVII.

Answering Paragraph XVII of the Complaint, Defendant denies each and every averment thereof.

XVIII.

Answering Paragraph XVIII of the Complaint, Defendant denies each and every averment thereof.

XIX.

Answering Paragraph XIX of the Complaint, Defendant denies each and every averment thereof. [31]

XX.

Answering Paragraph XX of the Complaint, Defendant denies each and every averment thereof.

XXI.

Answering Paragraph XXI of the Complaint, Defendant denies each and every averment thereof.

COUNTERCLAIM FOR INFRINGEMENT OF
UNITED STATES LETTERS PATENT NOS.
2,029,491 AND 2,092,337

Comes now the Defendant and Counterclaimant, Lane-Wells Company, and for cause of action for patent infringement alleges:

A-I.

That Counterclaimant, Lane-Wells Company, is a corporation duly organized and existing under the laws of the State of Delaware and has a place of business in the County of Los Angeles, State of California, and within the Southern District of California, Central Division.

A-II.

That, as Counterclaimant, Lane-Wells Company, is informed by the pleadings in this cause of action, and for the purpose of this counterclaim alleges, Counter-defendant, M. O. Johnston Oil Field Service Corporation, is a corporation duly organized and existing under the laws of the State of California, having its principal place of business at Los Angeles, California, within the Southern District of California, Central Division, in which place and in which District, among others, the acts hereinafter complained of have been done and are being done by said Counter-defendant. [32]

A-III.

That the jurisdiction of this Court depends upon the Patent Laws of the United States.

A-IV.

That on February 4, 1936, United States Letters Patent No. 2,029,491, for Gun Type Formation Tester, were duly and legally issued to The Technicraft Engineering Corporation, a corporation of California, having a place of business in Los Angeles, California; that on or about September 1, 1937, by an instrument in writing, duly executed, and recorded on or about November 29, 1937, in Liber A-173, page 33, in the United States Patent Office, The Technicraft Engineering Corporation assigned the entire right, title, and interest in and to said Letters Patent No. 2,029,491 and all causes of action for infringement thereof to Lane-Wells Company, Counterclaimant; and that, ever since said assignment, Lane-Wells Company, Counterclaimant, has been, and now is, the owner of said Letters Patent No. 2,029,491 and all causes of action for infringement thereof.

A-V.

That on September 7, 1937, United States Letters Patent No. 2,092,337, for Formation Testing Apparatus, were duly and legally issued to The Technicraft Engineering Corp., a corporation of California, having a place of business in Los Angeles, California; that on or about September 1, 1937, by an instrument in writing, duly executed, and recorded on or about November 29, 1937, in Liber A-173, page 33, in the United States Patent Office, The Technicraft Engineering Corp. assigned the entire right, title, and interest in and to said Letters Patent No.

2,092,337 and all causes of action for infringement thereof to Lane-Wells Company, Counterclaimant; and that, ever since said assignment, Lane-Wells [33] Company, Counterclaimant, has been, and now is, the owner of said Letters Patent No. 2,092,337 and all causes of action for infringement thereof.

A-VI.

M. O. Johnston Oil Field Service Corporation, Counter-defendant, has been, and now is, infringing said United States Letters Patent Nos. 2,029,491 and 2,092,337, and each of them, by making and using and, as Counterclaimant is informed by the pleadings in this case and for the purpose of this counterclaim, on information and belief alleges, by selling devices embodying the patented inventions, and each of them, and will continue to do so unless enjoined by this Court.

A-VII.

That the infringing acts of the Counter-defendant have been performed with full knowledge by, and complete notice to, Counter-defendant of said Letters Patent Nos. 2,029,491 and 2,092,337, and each of them, and that the acts of Counter-defendant herein complained of constitute wilful, wanton, intentional, and deliberate infringement of said Letters Patent, and each of them.

Wherefore, Defendant-Counterclaimant Prays:

(1) For a preliminary and final injunction against further infringement by Plaintiff-Counter-defendant and those controlled by it;

(2) For a judgment dismissing the Complaint herein;

(3) For a judgment directing an accounting of profits of Plaintiff-Counter-defendant and damages of Defendant-Counterclaimant, and that such damages be trebled in view of the wilful, wanton, intentional, and deliberate nature of the infringement; and [34]

(4) For a judgment that Defendant-Counterclaimant have its costs in this action sustained, and such other and further relief as to the Court may seem just.

Dated: At Los Angeles, California, this 16th day of October, 1946.

HARRIS, KIECH, FOSTER & HARRIS

By Ward D. Foster

Attorneys for Defendant-Counterclaimant [35]

Received copy of the within Answer this 16 day of Oct., 1946. Hill, Morgan & Farrer, Attorneys for Plaintiff.

[Endorsed]: Filed Oct. 16, 1946. Edmund L. Smith, Clerk. [36]

[Title of District Court and Cause]

ANSWER TO COUNTERCLAIM

Comes now the plaintiff and in answer to the counterclaim filed by the defendant-counterclaimant herein admits, denies and alleges as follows:

I.

In answer to Paragraph A-I of the counterclaim, plaintiff admits the allegations thereof. [37]

II.

In answer to Paragraph A-II of the counterclaim, plaintiff-counter-defendant admits the allegations thereof.

III.

In answer to Paragraph A-III of the counterclaim, plaintiff-counter-defendant admits the allegations thereof.

IV.

In answer to Paragraph A-IV of the counterclaim, plaintiff-counter-defendant admits that on February 4, 1936, United States Letters Patent No. 2,029,491 were issued by the United States Patent Office to The Technicraft Engineering Corporation, and that by virtue of assignment Lane-Wells Company, counterclaimant, has been and now is the owner of said Letters Patent No. 2,029,491. Except those matters specifically admitted herein, the plaintiff-counter-defendant, both generally and specifically, denies each and every allegation in said Paragraph A-IV contained.

V.

In answer to Paragraph A-V of the counterclaim, plaintiff-counter-defendant admits that on September 7, 1937, United States Letters Patent No. 2,092,337 were

issued by the United States Patent Office to The Techni-craft Engineering Corporation, and that by virtue of assignment Lane-Wells Company, counterclaimant, has been and now is the owner of said Letters Patent No. 2,092,337. Except those matters specifically admitted herein, the plaintiff-counter-defendant, both generally and specifically, denies each and every allegation in said Paragraph [38] A-V contained.

VI.

In answer to Paragraph A-VI of the counterclaim, plaintiff-counter-defendant, both specifically and generally, denies each and every allegation therein contained.

VII.

In answer to Paragraph A-VII of the counterclaim, plaintiff-counter-defendant admits that any acts which it has committed and done has been with the full knowledge of the existence of Letters Patent Nos. 2,029,491 and 2,092,337 and each of them, but denies that any acts done by plaintiff-counter-defendant constitute wilful, wanton, intentional and deliberate, or any, infringement of said Letters Patent, or either of them.

VIII.

Further answering the counterclaim, plaintiff-counter-defendant is informed and believes and on information and belief alleges that said patents Nos. 2,029,491 and 2,092,337 are invalid in that the things alleged to be described and patented in and by said patents were not inventions and did not require the, or any, exercise of the inventive faculty for their production and were not patentable, and that, therefore, said alleged patents Nos. 2,029,491 and 2,092,337 are null and void and of no effect.

IX.

Further answering the counterclaim, plaintiff-counter-defendant is informed and believes and on information and belief alleges that said patents Nos. 2,029,491 and 2,092,337 are invalid [39] in that the things alleged to be described and patented in and by said patents are inoperative.

X.

Further answering the counterclaim, plaintiff-counter-defendant is informed and believes and on information and belief alleges that the Letters Patent referred to in said counterclaim are invalid and should not have been granted because the combinations of parts therein claimed are incapable of performing any useful function and are inoperative to perform any useful function and therefore lack utility.

XI.

Further answering the counterclaim, plaintiff-counter-defendant is informed and believes and on information and belief alleges that said patents Nos. 2,029,491 and 2,092,337 are invalid in that the things purportedly patented thereby are not distinctly pointed out, described and claimed, as required by the statutes of the United States.

XII.

Further answering the counterclaim, plaintiff-counter-defendant is informed and believes and on information and belief alleges that said patents Nos. 2,029,491 and 2,092,337 are invalid, particularly as to claims 7, 8, 9, 11,

12, 13 and 14 of patent No. 2,029,491 and claims 5, 7, 9, 10, 13, 14, 15 and 18 of patent No. 2,092,337, in that said claims are vague, ambiguous and do not define or distinctly claim the alleged invention, as required by the statutes of the United States. [40]

XIII.

Further answering the counterclaim, plaintiff-counter-defendant is informed and believes and on information and belief alleges that said patent No. 2,092,337 is null, void and of no effect because of double patenting.

XIV.

Further answering the counterclaim, plaintiff-counter-defendant is informed and believes and on information and belief alleges that Letters Patent No. 2,092,337 are and each of the claims thereof is void and of no force and effect because the alleged invention and improvement claimed therein, and each and every substantial part thereof was, long prior to any invention or discovery thereof by the patentee named in said patent, patented or described in Letters Patent of the United States No. 2,029,491.

XV.

Further answering the counterclaim, plaintiff-counter-defendant is informed and believes and on information and belief alleges that each of the patents in suit and each of the claims thereof is void and of no force and effect because the alleged invention and improvement claimed therein and covered thereby, and each and every substantial part thereof was, long prior to any invention or discovery thereof by the patentees named in said patents, patented or described in the following patents and printed publications: [41]

Burr et al	68,350	Sept. 3, 1867
Franklin	263,330	Aug. 29, 1882
Cooper	1,000,583	Aug. 15, 1911
Cox	1,347,534	July 27, 1920
Halliday	1,474,630	Nov. 20, 1923
Edwards	1,514,585	Nov. 4, 1924
Steele	1,602,864	Oct. 12, 1926
Miller	1,837,788	Dec. 22, 1931
Fortune	1,853,557	Apr. 12, 1932
Johnston	1,901,813	Mar. 14, 1933
Simmons	1,930,987	Oct. 17, 1933
Anderson	39,787	Sept. 8, 1863
Mims	1,582,184	Apr. 27, 1926
Greene	1,641,483	Sept. 6, 1927
Rembert	1,835,722	Dec. 8, 1931
Prikel	2,022,976	Dec. 3, 1935
Prikel	2,026,061	Dec. 31, 1935
Haines	2,029,478	Feb. 4, 1936
O'Neill	2,034,768	Mar. 24, 1936
Spencer	2,037,938	Apr. 21, 1936
Wells	2,037,955	Apr. 21, 1936
Ridley	2,041,209	May 19, 1936
Johnston	2,048,451	July 21, 1936
Schlumberger	2,055,506	Sept. 29, 1936
Lane	2,062,974	Dec. 1, 1936
Lane	2,062,975	Dec. 1, 1936
Turechek	2,092,294	Sept. 7, 1937
Lane	2,092,317	Sept. 7, 1937
Metzner	2,142,572	Jan. 3, 1939
Yarbrough	2,142,583	Jan. 3, 1939 [42]

Mack	724,904	Apr. 7, 1903
Frederickson	1,015,432	Jan. 23, 1912
Le Bus	1,577,474	Mar. 23, 1926
Fondren	1,615,690	Jan. 25, 1927
Wood	1,779,652	Oct. 28, 1930
Jones	1,847,613	Mar. 1, 1932
Moss et al	1,910,851	May 23, 1933
Martois	1,941,703	Jan. 2, 1934
Crowell	Re. 16,577	Mar. 29, 1927
Neitzel	Re. 16,991	June 12, 1928
Hemme	976,737	Nov. 22, 1910
Meyer	1,018,333	Feb. 20, 1912
Mack	1,109,078	Sept. 1, 1914
Burstall	1,710,203	Apr. 23, 1929
Shepard et al	1,766,766	June 24, 1930

XVI.

Further answering the counterclaim, plaintiff-counter-defendant is informed and believes and on information and belief alleges that the person or persons named as the inventor or inventors in said Letters Patent Nos. 2,029,491 and 2,092,337 are not the first, or any, inventor or inventors of the things disclosed in said Letters Patent and that, therefore, said Letters Patent are invalid.

XVII.

Further answering the counterclaim, plaintiff-counter-defendant is informed and believes and on information and belief alleges that the defendant is estopped by the proceedings in the United States Patent Office in the matter of the applications [43] of the applicants for said Letters Patent Nos. 2,029,491 and 2,092,337, and the acquiescence of said applicants in and to the rulings and

rejections of the Commissioner of Patents in the negotiations for said Letters Patent, and in and by the limitations imposed thereby during the negotiations in the United States Patent Office leading up to the grant and issuance of said Letters Patent, from claiming any scope or subject matter of said alleged Letters Patent, or any of the claims thereof, as would comprehend or embrace any apparatus or devices manufactured, sold or used by this plaintiff-counter-defendant.

XVIII.

Further answering the counterclaim, plaintiff-counter-defendant is informed and believes and, therefore, on information and belief alleges that its said Johnston Perforator and Formation Tester, aforesaid, or any of the uses thereof, do not infringe the defendant-counterclaimant's patents Nos. 2,029,491 and 2,092,337, or any of the claims thereof.

Wherefore plaintiff-counter-defendant prays:

1. For a judgment dismissing the counterclaim with costs to the plaintiff-counter-defendant.
2. For such other and further relief as to the Court may seem just.

Dated: November 4, 1946.

HILL, MORGAN & FARRER
WILLIAM M. FARRER
MELLIN AND HANSCOM
OSCAR A. MELLIN

Attorneys for Plaintiff-Counter-Defendant [44]

Received copy of the within Answer this 4th day of November, 1946. Harris, Kiech, Foster & Harris, Ward D. Foster, Attorneys for Defendant.

[Endorsed]: Filed Nov. 4, 1946. Edmund L. Smith, Clerk. [45]

[Title of District Court and Cause]

PRE-TRIAL STIPULATION

Pursuant to the Order for Pre-trial Hearing entered by this Court October 31, 1946, the principal counsel for the parties hereto have conferred, exhibited to each other the documents, and formulated a statement of the facts involved, as required by such order, and present herewith a statement of the facts involved, as claimed by each party, showing what facts will be admitted for the purposes of the suit. [46]

STATEMENT OF THE FACTS INVOLVED AS CLAIMED BY PLAINTIFF

A-1. Plaintiff, M. O. Johnston Oil Field Service Corporation, is a California corporation having its principal place of business in Los Angeles, California; Defendant, Lane-Wells Company, is a Delaware corporation having a place of business in the County of Los Angeles, California; and the Court has jurisdiction over both parties.

Admitted by Defendant.

A-2. An actual controversy exists between the parties with respect to the validity and infringement of United States Letters Patent Nos. 2,029,491 and 2,092,337; and this Court has jurisdiction thereof under the patent laws of the United States and under Section 274-D of the Judicial Code, 28 U. S. C. 400.

Admitted by Defendant.

A-3. United States Letters Patent No. 2,029,491, for Gun Type Formation Tester, was issued February 4, 1936, on the application of Wilfred G. Lane, and United States Letters Patent No. 2,092,337, for Formation Testing

Apparatus, was issued September 7, 1937, on the application of Lloyd Spencer, and that the Defendant, Lane-Wells Company, has been, since September 1, 1937, and now is, the owner of the entire right, title and interest in and to said Letters Patent and all causes of action for infringement thereof.

Admitted by Defendant.

A-4. That prior to the filing of the Complaint and Counterclaim herein, and within six (6) years immediately preceding the filing of the Complaint and Counterclaim herein, and within the [47] Southern District of California, Central Division, the Plaintiff has manufactured and used a formation tester and a gun perforator assembled on a single string of tubing.

A-5. That formation testers such as assembled by Plaintiff on a single string of tubing with a gun perforator were old and well known and in public use prior to December 1932.

Not admitted by Defendant.

A-6. That gun perforators (both electrically and mechanically operated) for perforating well casing were old and well known and in public use, described and illustrated in United States and foreign patents and in printed publications in the United States prior to December 1932.

Not admitted by Defendant.

A-7. That in the Plaintiff's apparatus, when the formation tester and the gun perforator are assembled on a single string of tubing, the formation tester separately performs only its old and well-known function and the

perforator gun performs separately only its old and well-known function.

Not admitted by Defendant.

A-8. That when assembled on a single string of tubing, as done by Plaintiff, the formation tester and the gun perforator perform or produce no new or different function or operation than that theretofore separately performed or produced by them.

Not admitted by Defendant. [48]

A-9. When Plaintiff's formation tester and perforating gun are assembled on a single string of tubing, they each separately perform its single function in the same old way and no new function or result flows from assembling the two devices on a single string of tubing.

Not admitted by Defendant.

A-10. That Plaintiff's assembly of a formation tester and perforating gun on a single string of tubing constitutes no more than an aggregation of elements old in the art, which in the aggregation, perform or produce no new or different function or operation than that theretofore performed or produced by them.

Not admitted by Defendant.

A-11. That in Plaintiff's assembly of a formation tester and a perforator gun on a single string of tubing, the perforator gun operates completely independently of the formation ttsetr and the formation tester operates completely independently of the gun perforator, and the result

accomplished by the assembly is not the production of the combination but a mere aggregation of several results each the complete product of one of the assembled elements.

Not admitted by Defendant.

A-12. That no more than mechanical skill would be required to assemble the formation testers shown in the prior art prior to December 1932, and the gun perforators shown in the prior art prior to December 1932, on a single string of tubing.

Not admitted by Defendant. [49]

A-13. That the apparatus shown in the two Letters Patent in suit are of no practical value to the industry.

Not admitted by Defendant.

A-14. That the apparatus shown in the patent in suit No. 2,029,491 is inoperative to produce the results claimed for in said patent, and is of no practical value to the industry.

Not admitted by Defendant.

A-15. That the apparatus shown in the patent in suit No. 2,092,337 is inoperative to produce the results claimed for in said patent, and is of no practical value to the industry.

Not admitted by Defendant.

A-16. That no devices constructed according to either of the patents in suit have gone into actual use.

Not admitted by Defendant.

A-17. That the assembly of a formation tester and perforating gun by Plaintiff is different in construction and mode of operation from the devices disclosed in the patents in suit.

Not admitted by Defendant.

A-18. That in Plaintiff's assembly of a formation tester and perforating gun the different parts thereof operate to produce results in a substantially different manner than the parts operate in the devices of the patents in suit to produce the result claimed for them in such patents.

Not admitted by Defendant. [50]

A-19. That the claims of the patents in suit define the apparatus therein solely by their function and not by their physical characteristics.

Not admitted by Defendant.

A-20. That no more than ordinary skill is required to combine a formation tester old in the art and a perforating gun.

Not admitted by Defendant.

A-21. That the patents in suit are invalid for the reasons set out in the Complaint and Answer to Counterclaim.

Not admitted by Defendant.

A-22. That the assembly of a formation tester and perforating gun as manufactured and used by Plaintiff does not infringe any of the claims of the patents in suit.

Not admitted by Defendant. [51]

STATEMENT OF THE FACTS INVOLVED
AS CLAIMED BY DEFENDANT

B-1. Same as A-1.

Admitted by Plaintiff.

B-2. Same as A-2.

Admitted by Plaintiff.

B-3. Same as A-3.

Admitted by Plaintiff.

B-4. Same as A-4.

Admitted by Plaintiff.

B-5. United States Letters Patent No. 2,029,491, and particularly claims 7, 8, 9, 11, 12, 13, and 14 thereof, are valid and infringed by the manufacture and use of the combined formation tester and gun perforator by Plaintiff; United States Letters Patent No. 2,092,337, and particularly claims 5, 7, 9, 10, 13, 14, 15, and 18 thereof, are valid and infringed by the manufacture and use of the combined formation tester and gun perforator by Plaintiff.

Not admitted by Plaintiff.

Contended by Defendant.

ISSUES IN CONTROVERSY

(1) The validity of the Letters Patent in suit;

(2) Whether or not the Plaintiff's assembly of a formation tester and a perforating gun constitutes an infringement of any of the claims of the patents in suit. [52]

LIST OF ALL DOCUMENTS EXHIBITED BY
THE PARTIES

At the pre-trial conference of the counsel of the parties there were exhibited the following documents by the Plaintiff:

A-1. Prior patents pleaded in Answer to Counter-claim, and in addition the following patents and printed publications:

Wells	1,926,017	Sept. 5, 1933
Wells	1,987,919	Jan. 15, 1935
Lane	2,029,490	Feb. 4, 1936
Johnston	1,709,940	Apr. 23, 1929
Johnston	1,842,270	Jan. 19, 1932
Collins	2,295,634	Sept. 15, 1942
Collins	2,307,360	Jan. 5, 1943

Foreign Patents

Charles Delamare-Maze (Netherlands) OCTR001
No. 262,78 Feb. 27, 1928.

Prior Printed Publications

Pages 44 and 45, Volume 58, No. 11, of "The Oil Weekly" of August 29, 1930.

The article appearing on page 53 entitled "Formation Testers" in the book "Petroleum Development and Technology" of the American Institute of Mining and Metallurgical Engineers, Vol. 107, Copyrighted 1934 by the American Institute of Mining and Metallurgical Engineers.

An article "Short Gun Shoots Holes in Well Casing" appearing on page 67 of "Engineering News-Record, issue of July 10, 1930.

Deposition of Walter T. Wells heretofore taken.

A drawing of a well tester and perforator gun assembled on a string of tubing as heretofore manufactured and used by Plaintiff.

It is stipulated that printed or photostatic copies may be offered in evidence in lieu of originals. [53]

A-2. File wrappers and contents of the two patents in suit.

By the Defendant:

B-1: Patents in suit.

It is stipulated that printed copies may be offered in evidence in lieu of originals.

B-2. Executed Assignment of the patents in suit from the Technicraft Engineering Corp. to Lane-Wells Company, dated September 1, 1937, and causes of action for infringement.

Due execution and recording of Assignment admitted by Plaintiff, so that Assignment need not be offered in evidence.

B-3. Drawing and description of combined formation tester and gun perforator made and used by Plaintiff within this District and Division and within six (6) years preceding the filing of the Complaint and since September 1, 1937.

This drawing and description were incomplete; are to be completed as soon as possible and submitted to Plaintiff's counsel for approval.

B-4. Deposition of Mr. Johnston hereofore taken.

MISCELLANEOUS MATTERS

Counsel for the parties hereto agree that reference of all or any of the issues involved in this case to a Special Master is not advisable.

The parties hereto stipulate that each party shall have [54] only one patent expert witness to testify on direct examination on the subject matter of prior patents and publications.

ESTIMATE OF TIME FOR TRIAL

Plaintiff's counsel estimates that Plaintiff's case will require about three (3) to four (4) Court days, allowing for cross-examination of witnesses.

Defendant's counsel estimates that Defendant's case will require about two (2) to three (3) days, allowing for cross-examination of witnesses.

Dated: This 13th day of December, 1946.

HILL, MORGAN & FARRER
MELLIN & HANSCOM

By Oscar A. Mellin

Attorneys for Plaintiff.

HARRIS, KIECH, FOSTER
& HARRIS

By Ward D. Foster

Attorneys for Defendant.

[Endorsed]: Filed, Dec. 13, 1946. Edmund L. Smith,
Clerk. [55]

[Title of District Court and Cause]

PLAINTIFF'S INTERROGATORIES

Now comes the plaintiff in the above entitled cause, pursuant to Rule 33 of the Federal Rules of Civil Procedure, and propounds the following interrogatories to be answered under oath by an officer of the corporate defendant having knowledge of the facts.

* * * * *

Interrogatory No. 21

Filed herewith and labeled Exhibit "A" to Plaintiff's Interrogatories is a complete and accurate written description of the construction and operation of the plaintiff's formation tester, pressure recorder and gun perforator mounted on a single string of tubing which plaintiff refers to in its complaint and which is charged to infringe by defendant; in that connection—

(a) specifically set forth the precise claim or claims of patent No. 2,029,491 which defendant will contend at the trial to be infringed by plaintiff;

(b) specifically set forth the precise claim or claims of patent No. 2,092,337 which defendant will contend at the trial to be infringed by plaintiff.

Dated: This 13th day of February, 1947.

HILL, MORGAN & FARRER
MELLIN AND HANSCOM

By William M. Farrer
Attorneys for Plaintiff

[Endorsed]: Filed Feb. 13, 1947. Edmund L. Smith,
Clerk.

[Title of District Court and Cause]

DEFENDANT'S ANSWERS TO PLAINTIFF'S
INTERROGATORIES NOS. 5 TO 12, 17, AND
19 TO 21

State of California,
County of Los Angeles—ss.

Norman L. Dorn states that he is Vice-President of Lane-Wells Company, Defendant in the above entitled action and is competent to testify in its behalf and answers *Defendant's* Interrogatories Nos. 5 to 12, 17, and 19 to 21 on information and belief as follows: [56]

* * * * *

21(a) Claims 7, 8, 9, 11, 12, 13, and 14 of Letters Patent No. 2,029,491.

21(b) Claims 5, 7, 9, 10, 13, 14, 15, and 18 of Letters Patent No. 2,092,337.

NORMAN L. DORN
Vice Pres.

Subscribed and sworn to before me, this 10th day of March, 1947.

(Seal) PAULINE R. KOTLAN
Notary Public in and for the Above County and State.
My Commission Expires March 13, 1950.

Received copy of the within this 10 day of March, 1947. Mellin & Hanscom and Hill, Morgan & Farrer, by W. M. Farrer, Attorneys for Plaintiff.

[Endorsed]: Filed Mar. 10, 1947. Edmund L. Smith, Clerk. [57]

[Minutes: Tuesday, January 20, 1948.]

Present: The Honorable Wm. C. Mathes, District Judge.

For further argument; Messrs. Hill, Morgan and Farrer by Attorney Farrer and Oscar Mellin, Esq., appearing as counsel for plaintiff; Ward Foster, Esq., appearing as counsel for defendant; supplemental citation of *authorized* by defendant is filed.

Attorney Foster resumes argument and concludes at 11:40 A. M.

Court recesses. Court reconvenes herein and all being present as before, the Court commends counsel for their manner of presentation.

Court finds that Lane combination patent embodies the invention and is valid and not infringed by the Johnston Service.

As to the Spencer patent, the contribution rises to no greater dignity than aggregation of old elements.

Findings and Judgment are ordered for plaintiff, and counsel for plaintiff are directed to present findings and judgment in ten days. [58]

[Title of District Court and Cause]

FINDINGS OF FACT AND CONCLUSIONS OF LAW

Pursuant to Rule 52 Federal Rules of Civil Procedure and rule 7 of the local rules of the District Court of the United States for the Southern District of California, the court makes the following findings of facts and conclusions of law:

FINDINGS OF FACT

1.

The plaintiff, M. O. Johnston Oil Field Service Corporation, is a corporation duly organized and existing under the laws of the State of California, and has its principal place of business at Los Angeles, California.

2.

The defendant, Lane-Wells Company, is a [59] corporation duly organized and existing under the laws of the State of Delaware, having a place of business in the county of Los Angeles, State of California, and has designated an agent in the city of Los Angeles, county of Los Angeles, State of California, for service of process in conformity with the laws of the State of California.

3.

Technicraft Engineering Corporation was a wholly owned subsidiary of defendant.

4.

The Lane patent in suit No. 2,029,491 was issued to Technicraft Engineering Corporation, and subsequent to the grant and issuance of said patent and prior to the

filing of the complaint herein, said patent was assigned to the defendant, Lane-Wells Company, and ever since such assignment the legal title of said patent has been vested in defendant.

5.

At all times since the issuance of said patent No. 2,029,491 the legal title thereto has been vested in defendant or its wholly owned subsidiary Technicraft Engineering Corporation.

6.

The Spencer patent in suit No. 2,092,337 was issued to Technicraft Engineering Corporation, and subsequent to the grant and issuance of said patent and prior to the filing of the complaint herein, said patent was assigned to the defendant, Lane-Wells Company, and ever since its assignment the legal title of said patent has been vested in defendant.

7.

At all times since the issuance of Spencer patent [60] No. 2,092,337 the legal title thereto has been vested in defendant or its wholly owned subsidiary Technicraft Engineering Corporation.

8.

At the time of filing the complaint herein, a substantial and actual controversy existed between plaintiff and defendant as to the validity of the two patents in suit, Lane No. 2,029,491 and Spencer No. 2,092,337, and as to the question of the infringement of said two patents in suit by acts of the plaintiff.

9.

In 1932, at the time of filing of the original application for the Lane patent in suit, the art of gun perforating well casing was in its infancy and had not been commercialized.

10.

At the filing of the original application for the Lane patent in suit, the commercial use of formation testers was still in the pioneering stage.

11.

At the filing of the original application for the Lane patent in suit, there was no recognized unfilled need or want for a combined formation tester and gun perforator.

12.

At the filing of the original application for the Lane patent in suit, less satisfactory expedients had not long been used to accomplish the perforating of well casing and the obtaining a test sample from formation.

13.

At the filing of the original application for the Lane patent in suit, there was no combined formation tester and perforator gun and there had been no prior [61] unsuccessful attempts to produce one.

14.

Formation testers or sample receivers having packers to divide the well bore into upper and lower zones and adapted to receive and entrap a sample of well fluid admitted into the lower zone from the formation were old and well known prior to the making of the alleged invention of the Lane patent in suit.

15.

Long prior to the alleged invention of the Lane patent in suit, many forms of packers for dividing a well bore, cased or uncased, into an upper or lower zone were old and well known.

16.

Well casing perforating guns to be lowered into a well bore to be discharged to propel a projectile through the well casing into the surrounding formation were old and well known prior to the making of the alleged invention of the Lane patent in suit.

17.

At the time of the invention disclosed in Lane patent No. 2,029,491, defendant had control of the dominating patent covering gun perforating devices for well casing, namely, Mims patent No. 1,582,184, Exhibit 17-G.

18.

The circumstance which gave rise to the alleged invention of the combined gun type formation tester shown in the Lane patent in suit was that after the inventor had demonstrated to oil men that electrical control at the top of the well bore for firing the gun perforator was safe and feasible, defendant desired to cover by means of patents every possible application that the perforating gun might [62] have and every means by which it might be operated.

19.

A combined formation tester and perforating gun never was used commercially until 1943 when plaintiff commenced commercial use of the accused apparatus.

20.

Formation testers and perforating guns are still used separately to perforate a well casing and test through such perforations.

21.

From 1932 to the present, the major part of the business of defendant patent owner was and now is the building of perforating guns for perforating well casing and operating a perforating gun service for perforating well casings in place in oil wells.

22.

There never has been a gun-type formation tester constructed in substantial accordance with the drawings and specifications, or having substantially the mode of operation, of the Lane patent in suit No. 2,029,491.

23.

There never has been a gun-type formation tester constructed in substantial accordance with the drawings and specifications, or having substantially the mode of operation, of the Spencer patent in suit No. 2,092,337.

24.

To one skilled in the art, the terms "formation tester" or "formation testing tool" mean a tool which can be lowered into a well bore and entrap a sample, which sample is recovered by elevating it from the well bore entrapped in said tool. [63]

25.

The average depth in a well bore of making a test, either water shut-off or production test, in the California fields wherein the accused device is operated, is approximately 4500 feet.

26.

The average height of a sample recovered in a tester is approximately 500 feet.

27.

At the time a formation or water shut-off test is to be made in the well bore, the well bore and its casing are customarily maintained full of mud fluid of a specific gravity heavier than formation fluid to its upper end, in order to safeguard against a blowout and loss of the well.

28.

A formation or water shut-off test is usually made at a point relatively close to the bottom of the oil well bore.

29.

The depth of penetration of bullets from commercial gun perforators in well casing in a loose unconsolidated sand is in the range from a minimum of just outside the casing to a depth of eighteen inches.

30.

The depth of penetration of bullets from commercial gun perforators in well casing in hard sandstone would be from zero penetration to a maximum of six inches.

31.

When the well is maintained substantially full of mud fluid, the device as disclosed in the Lane patent in suit is incapable of preventing the flow of the mud fluid [64] under high velocity from the well bore into the lower end of the device, following the same path as the sample into the device and its tubing and mixing with the sample immediately after the packer of the device is released, and such mud fluid will continue to flow into the tester into

the same chamber as the sample until the level of the fluid in the tester and its tubing equalizes with the level of the mud fluid in the well bore; however, a satisfactory sample could possibly be secured by adding a liquid cushion above the sample in the Lane apparatus before the packer is released and by employing a bean at the surface of the ground, thus controlling the rate of inflow of the mud to the apparatus after the packer is unseated.

32.

In the Lane patented device the ball valve 28 will not function to prevent mud fluid from entering the tester when the packer is unseated in normal use of a tester in the oil fields, as described above in findings Nos. 25-30.

33.

Under normal conditions, as described above in findings Nos. 25-30, the amount of mud fluid which will enter the Lane device and its tubing after releasing the packer will be many times the amount of the sample taken into the device and its tubing from the formation.

34.

Under normal and usual circumstances as described above in findings Nos. 25-30, the device of the Lane patent in suit, as disclosed therein, would be impractical in industry to recover and bring to the surface of the well a beneficial test sample, without the additional use of other auxiliary equipment or devices and operations [65] not described or illustrated in the patent, and by a mode of operation not described or illustrated in the patent.

35.

The Lane patent in suit fails to disclose a device which is of any practical benefit to the oil industry, unless addi-

tional auxiliary devices or equipment not described or illustrated in the patent are used in connection therewith, to remove the sample from the device and elevate the sample to the surface of the well.

36.

The only operation which the device described and illustrated in the Lane patent has by itself, and with the mode of operation as set forth in that patent, would be the ability to be lowered into a well bore, set the packer to divide the well bore into an upper and lower zone, fire a perforating bullet through the well casing, and permit a sample to enter the tester; and such patent does not describe or illustrate any means or method for removing the sample from the tester to the surface of the well when making a test under normal and usual conditions, as described above in findings Nos. 25-30.

37.

If the Lane device were employed to make a test and separate instrumentalities, such as bailers, were required to remove the test sample from the device so that the sample may be brought to the surface, as much time would be required, under the conditions described above in findings Nos. 25-30, to make the test and recover such sample as would be required by the use of a separate perforating gun and formation tester.

38.

Subjecting a candidate-oil-producing zone through [66] perforations in a well casing to the pressure of the mud fluid in the well casing, for a matter of hours between perforating the casing and taking a formation test, would have some effect in retarding the flow of oil or native

formation fluid from such zone into the tester, because of the penetration of filtrate water into the zone and the forming of mud cake in the perforations during the time interval between perforating and testing.

39.

A candidate-oil-producing zone is subjected to the pressure of the drilling mud from one to three hundred hours during drilling through the candidate zone; and throughout that period filtrate water from the drilling mud penetrates said zone and mud cake is formed over the exposed area thereof.

40.

When perforating and testing by separately running a formation tester and a perforating gun, the time interval between perforating and testing is a matter of several hours.

41.

By connecting the Johnston Formation Tester and the Johnston Perforating Gun together to make the accused apparatus and running it into the well bore, the time interval between perforating and testing is usually a matter of from four (4) to fifteen (15) minutes.

42.

Upon making a production test of an oil sand in which the formation pressure is extremely low and far below normal formation pressure, the taking of a test immediately following perforation would result in obtaining a formation sample such as could not be obtained where a test is [67] made in a matter of several hours after perforation.

43.

In perforating a well casing and making a production test, by separately running a formation tester and a perforating gun, the time elapsed between perforating and testing will permit an additional small amount of filtrate water to penetrate into the oil sands immediately surrounding the perforations.

44.

In running a perforator gun and a tester separately, where a sample of the formation fluid is obtained in the tester, the amount of filtrate water in the test sample would be from approximately one to five per cent more than would be obtained by running the tester and perforating gun together.

45.

When a sample of the native formation fluid is obtained in the tester, an increase of one to five per cent in the amount of filtrate water taken into the tester with said sample would not normally have any disadvantageous effect as far as the efficiency of the test is concerned, in determining the nature and characteristics of the native formation fluid.

46.

Formation testers and perforating guns are separately operated for the purpose of perforating well casing and testing candidate formations more frequently than a combined formation tester and perforating gun.

47.

Claims 7-9 inclusive, and 11-14 inclusive, of the Lane patent in suit disclose a combination that is new. [68]

48.

Claims 7-9 inclusive, and 11-14 inclusive, of the Lane patent in suit disclose a combination that is useful.

49.

It is doubtful whether the claimed invention of the Lane patent involves more than a mere aggregation of old elements which produce a result not different in kind from that produced by using a formation tester and perforating gun separately.

50.

It is doubtful whether in effecting the combination of the perforator and tester as disclosed in the Lane patent in suit more than the ingenuity involved in the work of a mechanic skilled in the art was called into play.

51.

The apparatus disclosed in the Spencer patent in suit represents nothing more than a normal development of an old art and does not involve invention.

52.

The contribution of the alleged inventor of the apparatus disclosed in the Spencer patent in suit rises to no greater dignity than bringing together of a mere aggregation of old elements and did not amount to invention.

53.

The apparatus disclosed in the Spencer patent in suit required no more than the work of a mechanic skilled in the art to produce and did not involve invention.

54.

Plaintiff, *M. O. Johnston Oil Field Service Corporation*, and its predecessor in interest were pioneers in the

business of designing and manufacturing formation [69] testers for testing and sampling in deep oil well bores, and at great expense designed and developed the Johnston Formation Tester, exemplified by defendant's Exhibits AH-1, AH-2, and AH-3.

55.

The Johnston Formation Tester, designed and developed by plaintiff, and which forms a part of the accused apparatus, conforms precisely to the disclosure in the Johnston patent No. 2,073,107, plaintiff's Exhibit 17-U in evidence.

56.

Plaintiff, at great expense, developed the Johnston Perforating Gun which forms a part of the accused apparatus, and said Johnston Perforating Gun conforms substantially in construction and mode of operation to that disclosed in Collins patents Nos. 2,295,634, 2,305,139 and 2,307,360, in evidence as plaintiff's Exhibits 11, 11-A, 11-B and 11-C; and plaintiff pays royalties on the Johnston Perforator Gun to the owner of said Collins patents.

57.

The accused apparatus is an instrumentality made up of a standard Johnston Formation Tester and a standard Johnston Perforator Gun screwed to the lower end of the Johnston Formation Tester.

58.

It required only mechanical skill to perform the act of connecting the Johnston Formation Tester to the Johnston Perforating Gun to produce the accused apparatus.

59.

The Johnston Formation Tester, which forms a part of the accused apparatus, was widely and successfully used from 1932 to the present time and now is widely and [70] successfully used for the purpose of obtaining samples of formation fluid in well bores separate from the accused apparatus.

60.

The predecessor in interest of plaintiff corporation commercially operated formation testers conforming substantially in construction and mode of operation to those disclosed in Letters Patent No. 1,901,813, plaintiff's Exhibit 17-Q, from the year 1930 to the year 1932.

61.

During the latter part of 1932, the formation tester commercialized by said M. O. Johnston Oil Field Service Corporation, or its predecessor in interest, was changed to conform precisely to the Johnston Formation Tester disclosed in the Johnston patent No. 2,073,107, plaintiff's Exhibit 17-U; and the Formation Tester forming a part of the accused apparatus conforms precisely in construction and mode of operation to that disclosed in the said Johnston patent No. 2,073,107, plaintiff's Exhibit 17-U.

62.

The Johnston Formation Tester will, upon being lowered into a well bore with the well bore substantially full of mud fluid, extract a sample from the formation either from open formation or through perforations in well casing, entrap the sample and permit recovery of the sample at the mouth of the well, by removal of the tool from the well uncontaminated by any entrance of mud

fluid into the tester from the well bore following the unseating of the packer.

63.

The Johnston Formation Tester, which forms a part of the accused apparatus, is capable of, has been, and is [71] now used separately from any other apparatus to test the formation penetrated by well bores by sampling the same.

64.

The Johnston Perforating Gun, which is used as a part of the accused apparatus, is also capable of and is used separately from a testing tool or formation tester to perforate well casings in place in a well bore.

65.

No structural modification was necessary, either in the Johnston Formation Tester or the Johnston Perforator Gun, in order to connect them together to form the accused apparatus.

66.

When the Johnston Formation Tester and the Johnston Perforator Gun are connected together and lowered in a well bore for operation, they are each separately operated to perform exactly the same function in the same manner that they perform when run into a well bore separately.

67.

In the use of the accused apparatus, the Johnston Perforating Gun is screwed to the bottom of the Johnston Formation Tester and the two are lowered into the well bore simultaneously, and upon reaching the point of testing, the Johnston Perforator Gun is operated and fired

in precisely the same manner that it is operated and fired when it is run into a well casing for perforating without a Johnston Formation Tester; and after firing the accused apparatus is elevated in the well bore and then the packer of the Johnston Formation Tester is set and the Johnston Formation Tester in all respects is operated precisely as it is operated when it is run into a well bore for making a test [72] without the Johnston Perforator Gun connected therewith.

68.

When a perforating gun is connected to the lower end of a formation tester or sample receiver to be run into a well bore or well casing simultaneously, the operation of the gun does not change or modify the operation of the formation tester or sample receiver, and the operation of the formation tester or sample receiver does not change or modify the operation of the perforating gun.

69.

When a perforating gun is connected to the lower end of a formation tester or sample receiver to be run into a well bore or well casing simultaneously, each device separately operates in its old accustomed manner, and there is no change in the operation of either, save and except the length of the time interval between the operation of the two devices.

70.

In making water shut-off tests in well casing, there is no new or different result obtained by running the accused apparatus to perforate and make such a test over running a formation tester and a perforating gun separately to make the test, except a saving in time required to perform the operations.

71.

Approximately ninety-eight per cent (98%) of the use of the accused apparatus is devoted to making water shut-off tests in well casing.

72.

Approximately two per cent (2%) of the use of the accused apparatus is devoted to making production tests of candidate-oil-producing zones. [73]

73.

Johnston Formation Tester and a separate perforating gun are at present separately run by plaintiff to make production tests of candidate producing zones through well casing approximately ten times more frequently than the accused apparatus, for the reason that in the majority of instances it is more economical for the oil well drilling operators to perforate with a separate gun and test with a separately run tester than it is for them to utilize the accused apparatus, since the accused apparatus can only shoot a limited number of holes and cannot be run economically to shoot the large number of holes ordinarily required in perforating into a candidate oil zone.

74.

In the use of a perforating gun and a formation tester separately for making water shut-off tests in casing, the testing therewith by plaintiff has been one hundred per cent (100%) successful.

75.

If it is necessary to use a bailer or a swab to remove the test sample from the tester after it enters the tester, there is no time saving between running a combined tester and perforating gun over separately running the perforating gun and formation tester.

76.

If the sample must be removed from the formation tester by running a bailing tool into the formation tester to recover the sample, more than one round-trip of the bailer would usually be necessary.

77.

The accused apparatus, exemplified by defendant's Exhibits AH-1, AH-2 and AH-3, does not infringe the Lane [74] patent in suit No. 2,029,491, or any of claims 7-9 inclusive, or 11-14 inclusive, construed as limited to the precise device illustrated and described in said patent.

78.

The accused apparatus is substantially different in construction and mode or principle of operation from the apparatus disclosed in the Lane patent No. 2,029,491 in suit.

79.

The results obtained by the accused apparatus are obtained by a mode of operation substantially different than the mode of operation of the apparatus disclosed in the Lane patent No. 2,029,491 in suit.

80.

Assuming validity of the Spencer patent in suit No. 2,092,337, the accused apparatus, exemplified by defendant's Exhibits AH-1, AH-2 and AH-3, does not infringe the patent, or any of claims 5, 7, 9, 10, 13-15 inclusive, 18, or 28 thereof, construed as limited to the precise device illustrated and described in said Spencer patent.

CONCLUSIONS OF LAW

1.

Prior to the filing of the bill of complaint herein there existed a substantial actual and justiciable controversy between plaintiff and defendant regarding the validity of Lane patent No. 2,029,491 and Spencer patent No. 2,092,337 in suit herein, and the question of their infringement by acts of the plaintiff.

2.

This court has jurisdiction of the cause of action set out in the complaint and the cause of action set out in [75] the counterclaim herein, in that the same are founded upon the patent laws of the United States concerning the validity of Letters Patent of the United States and the question of their infringement by acts of the plaintiff; and jurisdiction is also conferred by § 274D of the Judicial Code [Federal Declaratory Judgments Act, 28 U.S.C. § 400].

3.

This court has jurisdiction of the parties.

4.

Although doubt exists whether the device of the Lane patent in suit involves more than a mere aggregation of old elements which produce a result not different in kind from that produced by using a formation tester and a perforating gun separately, that doubt must be resolved in favor of invention because of the presumption of validity arising from issuance of letters patent by the Patent Office; and it is therefore concluded that the Lane patent discloses a patentable invention.

5.

While it is doubtful whether, in effecting the combination of perforator and tester, more than the ingenuity involved in the work of a mechanic skilled in the art was called into play, that doubt must be resolved in favor of invention because of the presumption of validity arising from issuance of the patent; and it is therefore concluded that the Lane patent discloses a patentable invention.

6.

Although doubt exists whether the Lane patent in suit describes and claims the alleged invention with the definiteness and specificity required by R.S. § 4888, that doubt must be resolved in favor of validity because of the [76] presumption of validity arising from issuance of the patent; and it is therefore concluded that claims 7-9 inclusive, and 11-14 inclusive, of the said Lane patent comply with R.S. § 4888 and are valid.

7.

The Lane patent No. 2,029,491 is valid as to claims 7-9 inclusive, and 11-14 inclusive.

8.

Inasmuch as the Lane patent in suit No. 2,029,491 was issued February 4, 1936, on an application originally filed in 1932, and no apparatus for practical use has ever been built and commercially used in accordance with it, the patent must be held to be of that class as to which there is no room for equivalents, and the claims thereof must be limited to the precise device shown in the patent; and so limited, plaintiff's accused apparatus, exemplified by defendant's Exhibits AH-1, AH-2 and AH-3, does

not infringe the Lane patent in suit, or any of claims 7-9 inclusive, or 11-14 inclusive thereof.

9.

To sustain a charge of infringement of a patented apparatus, there must be found in the accused apparatus substantial identity of result, substantial identity of means, and substantial identity of mode of operation.

10.

To make one apparatus the equivalent of the other, it must appear that it not only produces the same effect, but that effect is produced by substantially the same mode of operation.

11.

The accused apparatus being substantially different both in construction and mode of operation from that [77] disclosed in the Lane patent No. 2,029,491 in suit, a charge of inringement cannot be sustained.

12.

Plaintiff is entitled to a declaratory judgment that the accused apparatus of plaintiff, exemplified by defendant's Exhibits AH-1, AH-2 and AH-3, has not infringed the Lane patent in suit No. 2,029,491, or any of claims 7-9 inclusive, or 11-14 inclusive thereof.

13.

The act of producing the device disclosed in the Spencer patent No. 2,092,337 amounted to no more than mechanical skill in view of the disclosure in the Lane patent in suit, and did not rise to the dignity of invention; hence said Spencer patent is invalid for want of invention.

14.

Plaintiff is entitled to judgment declaring claims 5, 7, 9, 10, 13-15 inclusive, 18 and 28 of the Spencer patent in suit No. 2,092,337 to be invalid and void in law.

15.

Inasmuch as the Spencer patent in suit No. 2,092,337 was issued September 7, 1937, on an application originally filed in the year 1935, and no apparatus for practical use has ever been built and commercially used in accordance with it, even assuming validity, the patent must be held to be of that class as to which there is no room for equivalents, and the claims thereof much be limited to the precise device shown in the patent; and so limited, plaintiff's accused apparatus, exemplified by defendant's Exhibits AH-1, AH-2 and AH-3, does not infringe the Spencer patent in suit, or any of claims 5, 7, 9, 10, 13-15 [78] inclusive, 18 or 28 thereof.

16.

Plaintiff is entitled to a declaratory judgment that the accused apparatus of plaintiff, exemplified by defendant's Exhibits AH-1, AH-2 and AH-3, has not infringed the Spencer patent in suit No. 2,092,337, or any of claims 5, 7, 9, 10, 13-15 inclusive, 18 or 28 thereof.

17.

Plaintiff is entitled to an injunction as prayed.

18.

Plaintiff is entitled to judgment dismissing defendant's counterclaim.

19.

Plaintiff is entitled to recover costs and disbursements herein.

Judgment will be entered accordingly.

February 26, 1948.

WM. C. MATHES,

United States District Judge

[Endorsed]: Filed Feb. 26, 1948. Edmund L. Smith,
Clerk. [79]

In the District Court of the United States
Southern District of California
Central Division

Civil Action No. 5295-WM

M. O. JOHNSTON OIL FIELD SERVICE CORPO-
RATION, a corporation,

Plaintiff,

v.

LANE-WELLS COMPANY, a corporation,

Defendant.

FINAL JUDGMENT

This cause having come on to be heard upon the issues raised by the complaint and answer, and the counterclaim and answer to the counterclaim, and the court having filed its findings of fact and conclusions of law, It Is Ordered, Adjudged and Decreed:

I.

That plaintiff, M. O. Johnston Oil Field Service Corporation, is a corporation duly organized and existing under and by virtue of the laws of the State of California.

2.

That defendant, Lane-Wells Company, is a corporation duly organized and existing under and by virtue of the laws of the State of Delaware, having a place of business [80] in the county of Los Angeles, State of California, and has designated an agent in the city of Los Angeles, county of Los Angeles, State of California, for service of process in conformity with the laws of the State of California.

3.

That this court has jurisdiction of this cause and of the parties.

4.

That defendant, Lane-Wells Company, is the owner of the legal title to the two patents in suit, to wit, United States Letters Patent Nos. 2,029,491 and 2,092,337, as the assignee of the Technicraft Engineering Corporation.

5.

That the Lane patent in suit No. 2,029,491 is valid as to claims 7-9 inclusive, and 11-14 inclusive.

6.

That the Spencer patent in suit No. 2,092,337 is invalid as to claims 5, 7, 9, 10, 13-15 inclusive, 18 and 28.

7.

That plaintiff, M. O. Johnston Oil Field Service Corporation, has not infringed the Lane patent in suit No. 2,029,491, or any of claims 7-9 inclusive, or 11-14 inclusive thereof, by the manufacture or sale or use of the apparatus exemplified by defendant's Exhibits AH-1, AH-2, and AH-3.

8.

That plaintiff, M. O. Johnston Oil Field Service Corporation, has not infringed the Spencer patent in suit No. 2,092,337, or any of claims 5, 7, 9, 10, 13-15 inclusive, 18 or 28 thereof, by the manufacture or sale or use of the apparatus exemplified by defendant's Exhibits [81] AH-1, AH-2 and AH-3.

9.

That a writ of injunction issue enjoining and restraining defendant, Lane-Wells Company, and its officers, agents, servants, employees, and attorneys, and all persons in active concert or participation with all or any of them as provided by Rule 65(d) of the Federal Rules of Civil Procedure, from threatening any of plaintiff's customers or dealers, or any present or prospective sellers, dealers or users of plaintiff's apparatus consisting of a Johnston Formation Tester and Johnston Perforator Gun, exemplified by defendant's Exhibits AH-1, AH-2 and AH-3, with infringement litigation; and from notifying or charging plaintiff or any of such customers, dealers or users, either verbally or in writing, with infringement of Lane Letters Patent in suit No. 2,029,491, or Spencer Letters Patent in suit No. 2,092,337, if they or any of them should sell or offer for sale or use, or permit the use on their properties, or for their benefit, of plaintiff's said device; and from commencing in this or in any other court against any customer or dealer or user of plaintiff's said device, any suit for alleged infringement of the Letters Patent here in suit, to wit, Lane No. 2,029,491 and Spencer No. 2,092,337, because of the making or using or selling, or offering for sale or use, or permitting the use, of plaintiff's device, to wit, the combined Johnston Formation Tester and Johnston Perforator Gun, exemplified by defendant's Exhibits AH-1, AH-2 and AH-3 herein.

10.

That the counterclaim of the defendant herein be and the same is hereby dismissed as to the plaintiff. [82]

11.

That plaintiff recover from defendant its costs and disbursements in this suit, to be taxed by the Clerk, in the sum of \$.

February 26, 1948.

WM. C. MATHES

United States District Judge

Judgment entered Feb. 26, 1948. Docketed Feb. 26, 1948, C. O. Book 48, page 696. Edmund L. Smith, Clerk; by Louis J. Somers, Deputy.

[Endorsed]: Filed Feb. 26, 1948. Edmund L. Smith, Clerk. [83]

[Title of District Court and Cause]

ORDER ON DEFENDANT'S MOTION FOR NEW TRIAL AND DEFENDANT'S MOTION UNDER RULE 52(b) F.R.C.P. TO AMEND FINDINGS AND CONCLUSIONS AND MAKE ADDITIONAL FINDINGS

The Defendant having filed its Motion for New Trial and Motion Under Rule 52(b) F.R.C.P. to Amend Findings and Conclusions and Make Additional Findings, and Defendant having filed its memoranda in support of said motions, and Plaintiff having filed its memoranda in opposition to said motions, and a hearing having been had on said motions, Plaintiff being represented by Mellin and Hanscom. Oscar A. Mellin, Esq., Hill, Morgan & Farrer,

and William M. Farrer, Esq., and Defendant being represented by Harris, Kiech, Foster & Harris and Ward D. Foster, Esq., and the Court having fully considered the same,

It Is Hereby Ordered That:

(1) The Findings of Fact and Conclusions of Law heretofore made are amended as follows: [84]

(a) After Finding of Fact No. 19 add:

—The following steps in the performance and use of the tool of the Lane patent in suit, No. 2,029,491, s described in such Lane patent, are identical with the steps in the performance and use of the Johnston accused tool as exemplified by Defendant's Exhibits AH-1, AH-2, and AH-3:

1. The elements are assembled into a combined tool including a gun perforator, packer, and tester.

2. The combined tool is lowered in the well to the point where it is desired to perforate.

3. The gun is fired to perforate the casing.

4. Several guns are fired successively.

5. The drill pipe is rotated one turn to the left to unlatch the packer and set the slips.

6. The weight of the drill pipe is lowered on the slips to set the packer.

7. The drill pipe or tubing is open to the formation below the set packer.

8. The entrance valve into the tool is left open until a sufficient quantity of the test liquids is secured in the tool. — [85]

(b) Insert as a part of Findings of Fact No. 42 and preceding the paragraph heretofore constituting Finding of Fact No. 42 the following:

—The combination of a perforator and tester such as that described in the Lane patent in suit, No. 2,029,491, accomplishes under certain conditions a saving of time and money over the separate use of its elements. —

(c) In Finding of Fact No. 78, page 17, line 6, of the findings heretofore made, strike out the words “or principle.”

(2) With respect to the Findings of Fact and Conclusions of Law heretofore made and sought to be stricken by Defendant’s said motions and with respect to all of the additional findings requested to be made by Defendant’s said motions, and in all other respects, said motions of Defendant are denied.

Dated: At Los Angeles, California, this 8 day of April, 1948.

WM. C. MATHES,
Judge.

Approved As To Form, this 7th day of April, 1948.
Mellin and Hanscom, Oscar A. Mellin, Hill, Morgan & Farrer, William M. Farrer, By Oscar A. Mellin, Attorneys for Plaintiff.

[Endorsed]: Filed Apr. 9, 1948, Edmund L. Smith, Clerk. [86]

[Title of District Court and Cause]

NOTICE OF APPEAL

Notice Is Hereby Given that Lane-Wells Company, the Defendant above named, hereby appeals to the Circuit Court of Appeals for the Ninth Circuit from the following parts, and each thereof, of the judgment entered in this action on the 26th day of February, 1948:

(a) Paragraph 7;

(b) Paragraph 9 in so far as it relates to Lane Letters Patent No. 2,029,491;

(c) Paragraph 10.

Dated: At Los Angeles, California, this 5th day of May, 1948.

HARRIS, KIECH, FOSTER & HARRIS
WARD D. FOSTER
WARREN L. KERN

By Ward D. Foster

Attorneys for Defendant

[Endorsed]: Filed & Mld. copy to Hill, Morgan & Farrer, May 5, 1948. Edmund L. Smith, Clerk. [87]

[Title of District Court and Cause]

NOTICE OF APPEAL TO CIRCUIT COURT
OF APPEALS FOR THE NINTH CIRCUIT
UNDER RULE 73b FEDERAL RULES OF
CIVIL PROCEDURE

Comes now plaintiff-appellant, M. O. Johnston Oil Field Service Corporation, above named, and gives notice that it hereby appeals to the Circuit Court of Appeals for the Ninth Circuit from the Final Judgment entered in this action on February 26, 1948, limited to the extent that said Judgment holds Lane patent No. 2,029,491 and claims 7, 8, 9, 11, 12, 13 and 14 thereof valid and fails to hold said patent and all the claims thereof invalid.

Dated: May 10, 1948.

HILL, MORGAN & FARRER
MELLIN AND HANSCOM
OSCAR A. MELLIN

By Oscar A. Mellin
Attorneys for plaintiff-appellant [88]

[Proof of Service]

[Endorsed]: Filed May 11, 1948. Edmund L. Smith,
Clerk. [89]

NATIONAL AUTOMOBILE AND CASUALTY
INSURANCE CO.

Los Angeles

In the District Court of the United States in and for the
Southern District of California
Central Division

No. 5295-WM Civil

M. O. Johnston Oil Field Service Corporation, a corpo-
ration,

Plaintiff,

vs.

Lane-Wells Company, a corporation,

Defendant.

UNDERTAKING FOR COSTS ON APPEAL

Whereas, M. O. Johnston Oil Field Service Corporation, a corporation, Plaintiff in the above entitled action is about to appeal to the Circuit Court of Appeals for the Ninth Circuit from a judgment entered in said action on the 26th day of April, 1948, in the District Court of the United States, for the Southern District of California, Central Division.

Now, Therefore, in consideration of the premises and of such appeal the undersigned, National Automobile and Casualty Insurance Co., a corporation organized and existing under and by virtue of the laws of the State of California, as Surety, does hereby undertake and promise on the part of the Appellant that said Appellant will pay

all costs if the appeal is dismissed or the judgment affirmed, or such costs as the Appellate Court may award if the judgment is modified, not exceeding Two Hundred Fifty and No/100 (\$250.00) Dollars, to which amount it acknowledges itself bound.

In Witness Whereof, the said National Automobile and Casualty Insurance Co., has caused, this obligation to be signed by its duly authorized Attorney-in-fact at Los Angeles, California, and its corporate seal to be hereto affixed, this 11th day of May, 1948.

NATIONAL AUTOMOBILE AND CASUALTY
INSURANCE CO.

(Seal) By Lloyd H. Johnston
Attorney-in-Fact

State of California
County of Los Angeles—ss.

On this 11th day of May, in the year 1948, before me, Loraine G. Winston, a Notary Public in and for said County and State, personally appeared Lloyd H. Johnston, known to me to be the person whose name is subscribed to the within instrument as the Attorney-in-Fact of the National Automobile and Casualty Insurance Co., and acknowledged to me that he subscribed the name of the National Automobile and Casualty Insurance Co. thereto as surety, and his own name as Attorney-in-Fact.

(Seal) LORAIN G. WINSTON
Notary Public in and for Said County and State

[Endorsed]: Filed May 12, 1948. Edmund L. Smith,
Clerk. [90]

[Title of District Court and Cause]

CONCISE STATEMENT OF THE POINTS ON
WHICH PLAINTIFF-APPELLANT INTENDS
TO RELY ON APPEAL

Comes now plaintiff-appellant herein, M. O. Johnston Oil Field Service Corporation, and makes the following concise statement of the points on which it intends to rely upon for appeal to the United States Circuit Court of Appeals from the Final Judgment made and entered February 26, 1948, in the above entitled cause:

1. The Court erred in holding United States Patent No. 2,029,491, issued February 4, 1936, good and valid in law, particularly as to claims 7, 8, 9, 11, 12, 13 and 14 thereof. [91]

2. The Court erred in not holding United States Patent No. 2,029,491, issued February 4, 1936, invalid in law in that an abstract idea or conception is not a patentable invention.

3. The Court erred in not holding United States Patent No. 2,029,491, issued February 4, 1936, invalid in law in that only mechanical skill was required to produce the device disclosed in said patent.

4. The Court erred in not holding United States Patent No. 2,029,491, issued February 4, 1936, invalid in law in that connecting two old devices in juxtaposition is unpatentable aggregation and not patentable combination.

5. The Court erred in not holding United States Patent No. 2,029,491, issued February 4, 1936, invalid in law in that it discloses not an invention but merely an aggregation of old elements each performing its separate, old function only.

6. The Court erred in not holding United States Patent No. 2,029,491, issued February 4, 1936, invalid in law in that the device disclosed therein will not work practically in industry when constructed and operated in accordance with the specification and drawings of the patent.

7. The Court erred in not holding United States Patent No. 2,029,491, issued February 4, 1936, invalid in law in that the structure disclosed therein is inoperative.

8. The Court erred in not holding United States Patent No. 2,029,491, issued February 4, 1936, invalid in law in that the device disclosed therein lacks sufficient utility to make it useful in the sense of the patent statutes of the United States. [92]

9. The Court erred in not holding United States Patent No. 2,029,491, issued February 4, 1936, invalid in law in that the patent is insufficient to satisfy the requirements of R. S. 4888, 35 U. S. C. A., §33, in that the only form of construction and the only form of operation of the device disclosed in the patent would not produce any useful result, and the patent therefore fails to disclose a useful and practical invention.

10. The Court erred in not holding United States Patent No. 2,029,491, issued February 4, 1936, invalid in law in that the patent is insufficient to satisfy the requirements of R. S. 4888, 35 U. S. C. A., § 33, in that the only form of construction and only form of

operation of the device disclosed in the patent will not produce any useful result without the use of additional instruments or devices not illustrated or described in the patent.

11. The Court erred in not holding United States Patent No. 2,029,491, issued February 4, 1936, invalid in law in that the claims of the patent are functional, ambiguous and indefinite and fail to comply with R. S. 4888.

12. The Court erred in not holding claims 7, 8, 9, 11, 12, 13 and 14 of Patent No. 2,029,491 to be so indefinite that they fail to comply with the requirements of R. S. 4888, 35 U. S. C. A., § 33, and are invalid.

13. The Court erred in not holding the Lane Patent No. 2,029,491 and each and every claim thereof invalid.

14. The Court erred in not granting the relief as prayed for in the original complaint on file herein.

Dated this 14th day of May, 1948.

HILL, MORGAN & FARRER
WILLIAM M. FARRER
MELLIN AND HANSCOM
OSCAR A. MELLIN

By Oscar A. Mellin

Attorneys for Plaintiff-Appellant [93]

Receipt of a copy of the within Concise Statement of the Points on Which Plaintiff-Appellant Intends to Rely on Appeal is hereby acknowledged this 18th day of May, 1948. Harris, Kiech, Foster & Harris. Ward D. Foster, Attorneys for Defendant.

[Endorsed]: Filed May 18, 1948. Edmund L. Smith, Clerk. [94]

[Title of District Court and Cause]

STIPULATION EXTENDING TIME

It Is Hereby Stipulated, by and between the parties to the above entitled action, through their respective counsel and subject to the approval of the Court, that the time within which Defendant may serve and file a designation of additional portions of the record, proceedings, and evidence to be included in the record on appeal, pursuant to Rule 75(a) of the Federal Rules of Civil Procedure, may be, and hereby is, extended to and including June 7, 1948.

This stipulation is made at the request of Defendant's counsel, whose crowded calendar prevents the thorough requisite examination and consideration of the voluminous record at this time.

Dated: At Los Angeles, California, this 28 day of May, 1948.

HILL, MORGAN & FARRER
WILLIAM M. FARRER
MELLIN AND HANSCOM
OSCAR A. MELLIN,

By William M. Farrer

Attorneys for Plaintiff

HARRIS, KIECH, FOSTER & HARRIS
WARD D. FOSTER
WARREN L. KERN

By Ward D. Foster

Attorneys for Defendant

Approved and It Is So Ordered, this 28 day of May, 1948.

WM. C. MATHES
Judge.

[Endorsed]: Filed May 28, 1948. Edmund L. Smith,
Clerk. [100]

The premium charged for this bond
is \$10.00 per annum

In the District Court of the United States for the
Southern District of California
Central Division
No. 5295-WM

M. O. Johnston Oil Field Service Corporation,
Plaintiff,

vs.

Lane-Wells Company,
Defendant.

UNDERTAKING FOR COSTS ON APPEAL

Know All Men By These Presents, that Fidelity and Deposit Company of Maryland, a corporation, organized and existing under the laws of the State of Maryland, and duly licensed to transact business in the State of California, is held and firmly bound unto M. O. Johnston Oil Field Service Corporation, Plaintiff in the above entitled case, in the penal sum of Two Hundred Fifty and No/100 (\$250.00) Dollars, to be paid to said Plaintiff, its successors, assigns or legal representatives, for

which payment well and truly to be made, the Fidelity and Deposit Company of Maryland binds itself, its successors and assigns firmly by these presents.

The Condition of the Above Obligation Is Such, that

Whereas, Lane-Wells Company, has appealed or is about to appeal to the United States Circuit Court of Appeals for the Ninth Circuit, from a judgment holding Lane Patent No. 2,029,491 not infringed by the Plaintiff, and entered on February 26th, 1948, by the United States District Court for the Southern District of California, Central Division, in the above entitled action.

Now, Therefore, if the above named appellants shall prosecute said appeal to effect and answer all costs which may be adjudged against them if the appeal is dismissed, or the judgment affirmed, or such costs as the Appellate Court may award if the judgment is modified, then this obligation shall be void, otherwise to remain in full force and effect [101]

It Is Hereby Agreed by the Surety that in case of default or contumacy on the part of the Principal or Surety, the Court may, upon notice to them of not less than ten days, proceed summarily and render judgment against them, or either of them, in accordance with their obligation and award execution thereon.

Signed, sealed and dated this 28th day of May, 1948.

FIDELITY AND DEPOSIT COMPANY
OF MARYLAND

By L. D. Jenson

Attorney in Fact

Attest S. M. Smith

Agent

State of California,
County of Los Angeles—ss:

On this 28th day of May, 1948, before me, Theresa Fitzgibbons, a Notary Public, in and for the said County of Los Angeles, State of California, residing therein, duly commissioned and sworn, personally appeared L. D. Jensen, known to me to be the Attorney-in-Fact, and S. M. Smith, known to me to be the Agent of the Fidelity and Deposit Company of Maryland, the Corporation that executed the within instrument, and acknowledged to me that they subscribed the name of the Fidelity and Deposit Company of Maryland thereto and their own names as Attorney-in-Fact and Agent, respectively.

(Seal)

THERESA FITZGIBBONS

Notary Public in and for the County of Los Angeles,
State of California.

My Commission Expires May 3, 1950.

Examined and recommended for approval as provided in Rule 8. Harris, Kiech, Foster & Harris, Warren L. Kern, Attorneys

[Endorsed]: Filed Jun. 3, 1948. Edmund L. Smith,
Clerk. [102]

[Title of District Court and Cause]

CONCISE STATEMENT OF DEFENDANT-
APPELLANT'S POINTS ON APPEAL

Now comes Defendant-Appellant herein, Lane-Wells Company, and makes the following concise statement of the points upon which it intends to rely for appeal to the United States Circuit Court of Appeals from the Final Judgment made and entered February 26, 1948, in this cause:

1. The Court erred in holding that Plaintiff has not infringed the Lane patent No. 2,029,491 and claims 7 to 9, inclusive, and 11 to 14, inclusive, thereof and in failing to find that Plaintiff has infringed such patent and claims, by the manufacture, sale, and use of the apparatus exemplified by Defendant's Exhibits AH-1, AH-2, and AH-3. [106]

2. The Court erred in holding that the Lane patent No. 2,029,491 must be held to be of that class as to which there is room for absolutely no equivalents whatsoever and that the claims thereof must be limited to the precise device shown in the patent because of lack of commercial use of the apparatus illustrated and described in said patent.

3. The Court erred in failing to apply any range of equivalents whatsoever to the Lane patent No. 2,029,491 or claims 7 to 9, inclusive, and 11 to 14, inclusive, thereof.

4. The Court erred in failing to apply a substantial, or any, range of equivalents to the Lane patent No.

2,029,491 or claims 7 to 9, inclusive, and 11 to 14, inclusive, thereof in accordance with the meritorious nature of the invention.

Dated: At Los Angeles, California, this 7th day of June, 1948.

HARRIS, KIECH, FOSTER & HARRIS
WARD D. FOSTER

By Ward D. Foster

Attorneys for Defendant-Appellant

Received copy of the within this 10th day of June, 1948, Oscar A. Mellin, Attorney for Plaintiff.

[Endorsed]: Filed Jun 11, 1948. Edmund L. Smith, Clerk. [107]

[Title of District Court and Cause]

STIPULATION AND ORDER RE EXTENSION OF
TIME FOR FILING RECORD ON APPEAL
AND DOCKETING APPEAL AND RE TRANS-
MISSION OF ORIGINAL EXHIBITS TO THE
APPELLATE COURT

It Is Hereby Stipulated, by and between the parties to the above entitled cause, through their respective attorneys and subject to the approval of the Court, that the time within which the record on appeal may be filed and the appeals docketed in the Appellate Court, as regards the appeals taken by both parties hereto, may be extended to and including August 2, 1948, and that all original ex-

hibits identified in all designations of portions of the record on appeal, filed pursuant to Rule 75 of the Federal Rules of Civil Procedure by either party hereto, shall be duly certified by the Clerk of this Court and sent to the Appellate Court in lieu of copies as part of the record on appeal, said [110] original exhibits to be returned to the Clerk of this Court when no longer needed by the Appellate Court.

Dated: At Los Angeles, California, this 8th day of June, 1948.

HARRIS, KIECH, FOSTER & HARRIS
WARD D. FOSTER

By Ward D. Foster

Attorneys for Defendant

MELLIN AND HANSCOM
OSCAR A. MELLIN
HILL, MORGAN & FARRER
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By Oscar A. Mellin

Attorneys for Plaintiff

Approved and It Is So Ordered, this 11 day of June, 1948.

WM. C. MATHES

Judge

[Endorsed]: Filed Jun. 11, 1948. Edmund L. Smith,
Clerk. [111]

[Title of District Court and Cause]

CERTIFICATE OF CLERK

I, Edmund L. Smith, Clerk of the District Court of the United States for the Southern District of California, do hereby certify that the foregoing pages numbered from 1 to 116, inclusive, contain full, true and correct copies of Complaint; Notice of and Motion for More Definite Statement and Bill of Particulars; Plaintiff's More Definite Statement and Bill of Particulars; Answer to Complaint and Counterclaim; Answer to Counterclaim; Pre-Trial Stipulation; Defendant's Answers to Plaintiff's Interrogatories Nos. 5 to 12, 17, and 19 to 21; Minute Order Entered January 20, 1948; Findings of Fact and Conclusions of Law; Final Judgment; Order on Defendant's Motion for New Trial and Defendant's Motion to Amend Findings and Conclusions and Make Additional Findings; Notices of Appeals; Undertakings for Costs on Appeals; Statements of Points on Appeals; Designations of Record on Appeals; Designations of Additional Portions of Record on Appeals; Stipulation and Order Extending Time to File Designation; and Stipulation and Order Extending Time to File Record and Docket Appeals which, together with original Plaintiff's Exhibits 1 to 10, inclusive; 11a, 11b, 11c, 12a, 12b, 12c, 13, 14, 16, 17a to 17w, inclusive, 18 to 22, inclusive, 24, 25, 27, 28, 31, 33 to 35, inclusive, 36a, 36b, 37, 38a and 38b and original Defendant's Exhibits E, F-1 to F-8, inclusive, G, K, L, M, O-1, O-2, P, Q, R, T, V-1, V-2, Z, AA-1 to AA-7, inclusive, AB, AD, AE, AE-1, AF, AG, AH-1,

AI-1 to AI-3, inclusive, AK, AL, AM-1, AM-2 and 30-B-1 to 30-B-5, inclusive, and copy of Reporter's Transcript of Proceedings on July 15, 16, 17 and 18, 1947; November 25 and 26, 1947; December 12, 16, 17 and 18, 1947 and January 16 and 20, 1948, transmitted herewith, constitute the record on appeals to the United States Circuit Court of Appeals for the Ninth Circuit.

I further certify that my fees for preparing, comparing, correcting and certifying the foregoing record amount to \$27.70 of which sum one-half has been paid by each of the appellants.

Witness my hand and the seal of said District Court this 1 day of July, A. D. 1948.

(Seal)

EDMUND L. SMITH

Clerk

By Theodore Hocke

Chief Deputy

[Title of District Court and Cause]

Honorable William C. Mathes, Judge Presiding
REPORTER'S TRANSCRIPT OF PROCEEDINGS

Los Angeles, California, Tuesday, July 15, 1947

Appearances:

For the Plaintiff: Hill, Morgan & Farrer, by William M. Farrer, Esq., 1007 Title Guarantee Building, Los Angeles, California, and Mellin and Hanscom, by Oscar A. Mellin, Esq., 4th Floor, 79 Post Street, San Francisco, California.

For the Defendant: Harris, Kiech, Foster & Harris, by Ward D. Foster, Esq., and Ford W. Harris, Jr., Esq., 471 Chamber of Commerce Building, 1151 South Broadway, Los Angeles, California. [1*]

* * * * *

The Court: In fact, I take it from Mr. Mellin's opening statement that the plaintiff not only knew about them but he made an extensive study of the patents outstanding and the prior art and made tests and experiments.

Mr. Foster: Yes. My precise point was that before he started any development work upon the combined tool here in issue he admittedly had full knowledge of the two patents here in suit.

The Court: As I say, I take it there will be no issue as to that?

Mr. Mellin: No, your Honor, none whatsoever. [39]

* * * * *

*Page number appearing in original Reporter's Transcript.

Mr. Mellin: If your Honor please, it specifies if those claims are valid and if the court interprets them literally as written and applies them literally as written they are infringing. That far we admit. But in view of all the rules of law—Mr. Foster knows them the same as I do—there are many instances in a patent case, including the fact that there are mere paper patents and this own court's rule has [40] been to that effect and the court construes those claims and construes what they mean and applies them differently under different circumstances.

Now, we do not mean to imply by that that under all circumstances those claims were infringed. We merely stated if the court applies them as literally worded and literally applies them, which the court seldom does in a patent case—Judge McCormick in one case—I do not have it in front of me now but I can bring it in, and it was in a well tool case. He said that in view of the fact it was a paper patent he would not construe the claim to read upon the defendant's structure but that he would confine the scope of the claim to the precise device illustrated by the patent. So, it is a matter of construction for the court and that is exactly what we have written. If this court construes these literally and applies them literally as worded then we infringe, but we say if the court gives the construction they are entitled to and applies them as the court should, then we do not infringe. I think that language is clear. [41]

* * * * *

The Court: Let me see if I understand your contention. Your contention is that if the invention is as broad as it is claimed in those claims and those claims are valid then plaintiff concedes that his device infringes. If the claims are valid and are more narrowly construed than the literal reading of them you reserve the right to contend that your device does not infringe on a narrower construction of those claims?

Mr. Mellin: Yes. I think it all depends on the construction the courts put on it.

The Court: If they are as broad as claimed and are valid [42] in that breadth, to that extent, you freely concede there has been infringement.

Mr. Mellin: I think the court just put, in other words, exactly what I pleaded.

Mr. Foster: That applies to both patents, Mr. Mellin?

Mr. Mellin: Of course. [43]

* * * * *

Mr. Foster: I have in mind as one thing, your Honor, whether or not they were going to offer proof or attempt to prove damage to the plaintiff from the holding out by the defendant of its patents as valid and infringed.

The Court: There is no claim for damages here.

Mr. Mellin: No. [50]

* * * * *

Mr. Mellin: Mr. Johnston, will you take the stand?

M. O. JOHNSTON,

called as a witness by and on behalf of the plaintiff, having been first duly sworn, was examined and testified as follows:-

The Clerk: State your full name.

The Witness: M. O. Johnston.

Direct Examination

By Mr. Mellin:

Q. Will you give your name, age, and residence, Mr. Johnston?

A. M. O. Johnston. Age 52. 1661 Grandview, Glendale, California.

Q. What is your occupation?

A. President of the M. O. Johnston Oil Field Service Corporation and Johnston Testers.

Q. What is the Johnston Testers?

A. Johnston Testers is a corporation operating in the Mid-Continent. [51]

Q. And the M. O. Johnston Oil Field Service Corporation is the plaintiff here?

A. Yes.

Q. And what is its business?

A. Its business is testing oil wells.

Q. Will you also state whether or not it also manufactures and sells oil well testers in foreign fields?

A. Yes, sir.

Q. You said "testing oil wells." Will you state whether or not you mean by that the testing of oil wells by removing a sample of fluid from a well bore?

A. Yes, sir.

Q. Now, I hand you two catalogs and ask you if these disclose the Johnston tester which the M. O. Johnston Oil Field Service Corporation utilizes in its business?

A. They do.

(Testimony of M. O. Johnston)

The Court: You mean each of them does?

The Witness: Yes, sir.

Mr. Mellin: May I offer those in evidence, your Honor?

Mr. Foster: What is the date of the publication? What is the purpose of the offer, Mr. Mellin?

Mr. Mellin: One is 1944 and this one—

Q. By Mr. Mellin: What is the date of the publication—the one I have in my hand, entitled “Johnston Testers”, do you know? [52]

A. I don’t know.

Q. Is that the 1946 catalog?

A. I don’t know. I think it is. I am not sure.

Mr. Mellin: The 1944 catalog is offered as Plaintiff’s Exhibit 5, and the other one is offered as Plaintiff’s Exhibit 6.

Mr. Foster: Objected to as no proper foundation and not properly identified, immaterial and irrelevant. [53]

* * * * *

The Court: The objection is overruled. The 1944 catalog will be marked Plaintiff’s Exhibit 5 in evidence.

(The catalog referred to was marked Plaintiff’s Exhibit 5, and was received in evidence.)

Mr. Mellin: If your Honor please, I have a book of prior art patents, a copy of which I have furnished to counsel. [57]

The Court: What do you expect to do with respect to the other document the witness identified?

Mr. Mellin: I offer that in evidence, the present-day Johnston tester.

Mr. Foster: The same objection.

(Testimony of M. O. Johnston)

The Court: That is offered as the 1946 publication?

Mr. Foster: The same objection, your Honor.

Mr. Mellin: Yes, it is.

The Court: Very well. The objection is overruled and the 1946 catalog is received as Plaintiff's Exhibit 6. [58]

* * * * *

The Court: You desire to have them marked as Plaintiff's Exhibit 17?

Mr. Mellin: 17, 17-A and so forth.

The Court: For identification?

Mr. Mellin: For identification.

The Court: They will be so marked. The book will be marked as Exhibit 17, for identification, and the patents will each be marked seriatim 17-A—you say to 17-Y?

Mr. Mellin: Just a minute, your Honor, and I will look at my last one.

The Court: For identification? [59]

Mr. Mellin: For identification, 17-X, your Honor.

(The book referred to was marked as Plaintiff's Exhibit 17, and 17-A to 17-X, both inclusive, for identification.)

Q. By Mr. Mellin: What generally has been your experience in the oil fields, Mr. Johnston?

A. About 37 or 38 years.

Q. Does that experience include the drilling of oil wells?

A. Yes, sir.

Q. Does that experience include the testing of oil wells?

A. Yes, sir.

Q. When did you first engage in the testing of oil wells with tools capable of removing a sample of fluid from a well bore?

A. In 1927.

Q. Where was that, please?

A. In Alabama.

(Testimony of M. O. Johnston)

Q. What testing tool did you operate at that time?

A. The Johnston tester.

(A document was handed to Mr. Foster.)

Mr. Foster: I must apologize, your Honor, for taking so long to examine this. We have never seen it before.

The Court: That is quite all right. [60]

Q. By Mr. Mellin: Will you state whether or not that Johnston tester you have just referred to is identical with or different from the Johnston tester which is illustrated on the circular which I hand you?

A. It is the same.

Q. And when was that circular published, if you know?

A. In 1927.

Q. Has that circular been in your possession ever since that time?

A. Yes, sir.

Q. State, if you will, who comprised the Johnston Formation Testing Company at that time.

A. My brother, E. C. Johnston.

Q. Do you know whether or not the circular was circulated among the trade approximately in 1927?

A. Yes, sir.

Mr. Mellin: The circular just identified by the witness is offered in evidence, your Honor.

The Court: You say your brother alone comprised that company, or you and your brother?

The Witness: My brother alone.

Mr. Foster: That is objected to, your Honor, if it is offered as proof of its contents, as hearsay.

The Court: It is offered merely as descriptive, I take it? [61]

Mr. Mellin: Descriptive of the tool which he operated in 1927.

(Testimony of M. O. Johnston)

The Court: The objection is overruled. The circular will be received in evidence and marked as Plaintiff's Exhibit—

Mr. Mellin: 8.

The Court: 8. Or is it 7, Mr. Clerk?

The Clerk: 7 is the next number I have.

The Court: —as Exhibit 7 in evidence.

Mr. Mellin: Your Honor, I have marked all my exhibits, and I notice that in marking them I have made an error and have skipped No. 7. May I mark this 8 and skip No. 7?

The Court: You are offering no Exhibit No. 7?

Mr. Mellin: No, your Honor.

The Court: Is there any reason why this circular should not take No. 7?

Mr. Mellin: Well, no reason, your Honor, except that I have all the exhibits marked, and I have them all mismarked. It is my own error.

The Court: Very well. This 1927 circular will be marked Plaintiff's Exhibit No. 8. I understand you are not to offer any exhibit 7?

Mr. Mellin: That is correct, sir.

The Court: Very well. [62]

(The circular referred to was marked Plaintiff's Exhibit 8, and was received in evidence.)

Q. By Mr. Mellin: That circular, Plaintiff's Exhibit 8, Mr. Johnston, does that accurately illustrate the tester which you operated in 1927? A. Yes, sir.

Q. When did you or your company go into business in well testing in California? A. In 1930.

(Testimony of M. O. Johnston)

Q. Under what name or style did you do business at that time?

A. The Johnston Formation Testing Corporation, Ltd.

Q. And is the present plaintiff the successor to all the business and assets of that corporation which you have just named?

A. Yes, sir.

Q. At the time you entered the business in 1930 of testing wells in California, did you or your company employ a testing tool capable of taking a sample from oil well bores?

A. Yes, sir.

Q. Now, you are familiar with your patent, 1,901,813, dated March 14, 1933, on an application made April 2, 1932, which is Plaintiff's Exhibit 17-Q, for identification, are you not?

A. Yes, sir. [63]

Q. You are familiar with the disclosures of that patent, are you?

A. Yes, sir.

Q. Will you state whether or not the testing tool which you operated in California in 1930 conformed substantially to the disclosures in that patent?

A. Yes, sir.

* * * * *

Q. By Mr. Mellin: When did you adopt the design of the well-testing tool known as the Johnston tester and disclosed in the catalogs in evidence as Plaintiff's Exhibits 5 and 6, Mr. Johnston?

Mr. Foster: That is objected to. There is no evidence [64] that the tester was ever known as the Johnston tester.

Q. By Mr. Mellin: What is your present tester known as, Mr. Johnston?

A. The Johnston testers.

(Testimony of M. O. Johnston)

Q. Now, will you tell us when you first changed to the design of testers—by the way, what was the tester known as in 1930? A. The Johnston testers.

Q. When did you change from the design which you testified was disclosed in your patent just referred to to the design of the testing tool shown in the catalogs, Plaintiff's Exhibits 5 and 6?

A. Sometime in the latter part of 1932 or '33.

Q. You are the M. O. Johnston that is the patentee of patent 2,073,107, filed May 19, 1934 and issued March 9, 1937, are you? A. Yes, sir.

Q. And which patent is marked, for identification, as Exhibit No. 17-U. You are familiar with the testing tool disclosed in that patent, are you not?

A. Yes, sir.

Q. Does that patent disclose the testing tool which you testified is known as the Johnston tester, and which you are now using? A. Yes, sir. [65]

Q. That design was adopted by you, you say, in the latter part of 1932?

A. The latter part of '32 or the first part of '33.

Mr. Mellin: Your Honor please, the next exhibit is a page from the publication entitled "Composite Catalog of New and Standard Oil Field Equipment," edition of 1930-32, and it is stipulated between counsel that it was published not later than December, 1932, and that the photostatic copy of page 106 of that publication is a true copy and that it may be offered in evidence in lieu of the original.

The Court: Is it so stipulated, Mr. Foster?

Mr. Foster: Yes, your Honor.

(Testimony of M. O. Johnston)

Q. By Mr. Mellin: I hand you the document which I have just identified—

The Clerk: May I have it to mark it?

Mr. Mellin: Oh, I beg your pardon.

The Court: Do you have a number for that?

Mr. Mellin: 9.

The Court: It will be received in evidence. That is the document just identified, concerning which the stipulation was made?

Mr. Mellin: Yes.

Mr. Foster: I beg your pardon, your Honor?

The Court: That is the document concerning which you have just made the stipulation? [66]

Mr. Foster: The stipulation which he recited. We do object to its reception into evidence on the ground that it is not proof of its contents, your Honor, that it is hearsay as regards the truth of the contents.

The Court: What is the purpose of the offer?

Mr. Mellin: That it is a tool used by him in the latter part of 1933, prior to these patents, your Honor, and I want him to identify the illustration of them as illustrating the tools used at that time, prior to these patents.

The Court: Is there objection to it for that purpose?

Mr. Foster: Not if the witness identifies it.

The Court: Very well. At this time it will be marked Exhibit 9, for identification.

(The photostat referred to was marked Plaintiff's 9, for identification.)

Q. By Mr. Mellin: Mr. Johnston, I hand you a page of the document just discussed, page 109 of the 1930 to 1932 edition of the Composite Catalog, and I ask you

(Testimony of M. O. Johnston)

if you know what those illustrations appearing on those pages are. A. Yes, sir.

Q. Will you state whether or not they disclose Johnston tools which were employed by the plaintiff or its predecessor in interest at the time when you adopted the present design in 1932 or early 1933?

A. Yes, sir. [67]

Q. And do they accurately illustrate the tool which was made by the plaintiff or its predecessor in interest for testing oil wells in California in the latter part of 1932 or the early part of 1933?

A. Yes, sir.

Q. Are those illustrations accurate of the construction of the tool at that time? A. Yes, sir.

Mr. Mellin: I offer it in evidence, your Honor, as Plaintiff's Exhibit 9.

Mr. Foster: Is the offer limited to the illustrations, to the exclusion of the printed descriptions?

Mr. Mellin: Certainly not. I will have him read them, if you want.

The Court: You are not offering then anything but the illustrations?

Mr. Mellin: I am offering it for all it contains, the illustrations and the descriptive of the tools.

The Court: You are offering it all?

Mr. Mellin: Yes.

Q. By Mr. Mellin: Will you read it, Mr. Johnston, and tell us whether or not the description accurately describes the construction and mode of operation of the tool illustrated thereon?

Mr. Foster: That is objected to as immaterial. Mr. [68] Johnston isn't shown to be an expert. He has

(Testimony of M. O. Johnston)

identified the illustrations, and we think that is all that is material.

The Court: It is a question of not only knowing its physical aspects but knowing its mode of operation, and if the language there is accurate, it will probably summarize what he would testify to. Overruled.

Does the description of the device and the mode of operation correctly state the device and how it operates?

The Witness: Yes, sir.

Mr. Mellin: I offer it in evidence.

The Court: Exhibit 9 for identification is received in evidence.

(The photostat, heretofore marked Plaintiff's Exhibit 9, for identification, was received in evidence.)

Q. By Mr. Mellin: Then as I understand it, your testimony, Mr. Johnston, is that since 1930, when you came to California, the plaintiff or its direct predecessor in interest has been continuously engaged in the business in California of operating Johnston well testers?

A. Yes, sir.

Q. State, if you will, when you first saw a gun for perforating well casing.

A. In the latter part of 1929.

Q. Where was that, please? [69]

A. That was in Eldorado, Arkansas.

Q. Will you state the circumstances?

A. I had heard of a gun being used to make perforations sometime in 1929 by Mr. Rembert. In the latter part of 1929 I met Mr. Rembert at the Garrett Hotel in Eldorado, Arkansas, and asked him about the gun, and he told me that he had one in his car. I told him that I was contemplating on going to California and introducing the

(Testimony of M. O. Johnston)

Johnston formation tester, and that I would like to have a license on the gun for the State of California. So he told me that there was on in the back of his car out back of the hotel, and we went out and looked at it, and he said that after I got out he would ship me one.

Mr. Foster: Your Honor please, I have been waiting for something that was not hearsay, but it has all been hearsay to date, and I move to strike all of his answer on that ground.

Mr. Mellin: The fact that he saw the gun is not hearsay.

The Court: Objection overruled. The motion is denied.

Mr. Mellin: Go on, Mr. Johnston. Have you finished your answer?

Read the answer, please.

The Court: Read it, please.

(The answer was read.)

Q. By Mr. Mellin: Did he so ship you a gun, Mr. Johnston? [70] A. Yes, sir.

Q. When was that?

A. That was in September, 1930.

Q. Now, I hand you what appears to be a page from the publication, "The Oil Weekly," Volume 58, No. 11, published August 29, 1930, and ask you if you can identify the matter illustrated and described thereon.

A. Yes, I can.

Q. What is it? A. It is the Rembert gun.

Q. And a description of the operation of the Rembert gun? A. Yes, sir.

Q. And does that conform to the gun which Mr. Rembert shipped you? A. The same.

The Court: Is that R-e-m-b-e-r-t?

(Testimony of M. O. Johnston)

The Witness: Yes, sir.

Mr. Mellin: R-e-m-b-e-r-t. I offer that in evidence, your Honor, as Plaintiff's Exhibit next in order, and I would like to read into evidence at this time this stipulation—

The Court: Just a moment before you go on with that. Are you offering the illustration and the language?

Mr. Mellin: And the language, your Honor, as being a publication published in "The Oil Weekly," Volume 58, No. 11, [71] of August 29, 1930. The stipulation is that the photostatic copy of page 45, which is the page in question, is a true copy of page 45 of said publication, and that said copy may be received in evidence with the same force and effect as the original.

Mr. Foster: Now, your Honor, this article contains a lot of factual statements, apparently by Mr. Rembert. There is considerable doubt in my mind about them. I began to consider this scheme and wrote to several large arms manufacturers to learn so-and-so. I received replies to my letters of inquiry and through continuous study I was able to overcome all the difficulties.

The Court: That is just puffing, isn't it?

Mr. Foster: It is just what, your Honor?

The Court: It is just puffing and does not affect the situation here, if it is stipulated it was published. I take it, it is not being offered for the purpose of proving that everything thereon contained is true, but just to prove it was said?

Mr. Mellin: Just to prove it was published at that time, and that the illustration is the gun shown Mr. Johnston.

Mr. Foster: With that understanding, there is no objection.

(Testimony of M. O. Johnston)

The Court: It will be received and marked Plaintiff's Exhibit— [72]

The Clerk: 10, your Honor.

(The photostat referred to was marked Plaintiff's Exhibit 10, and was received in evidence.)

Mr. Foster: What is that page, page 45?

Mr. Mellin: The Oil Weekly, page 45 of The Oil Weekly.

Q. By Mr. Mellin: Mr. Johnston, I show you the Rembert patent, 1,835,722. It is dated December 8, 1931 on the application filed January 9, 1930. Have you previously looked at the illustrations of that patent and read the disclosures?

The Court: Is it a part of Exhibit 17?

Mr. Mellin: That is right, your Honor, 17-M.

The Witness: Yes, I am sure that I have.

Q. By Mr. Mellin: Now, will you state whether or not the gun which Mr. Rembert shipped you substantially conforms or not to the gun illustrated and described in the patent to which I have just referred?

A. Yes, sir.

Mr. Mellin: That patent, of course, is offered in evidence under that number, your Honor.

The Court: Not at this time?

Mr. Mellin: Not at this time.

The Court: You say it does depict the Rembert gun,—

The Witness: Yes, sir.

The Court: —in Exhibit 17-M, for identification? [73]

The Witness: Yes, sir.

(Testimony of M. O. Johnston)

Q. By Mr. Mellin: What, if anything, did you do at that time, that is, the time when Mr. Rembert sent you this gun, which I understand was in 1930—

A. September, 1930, yes.

Q. —towards developing and commercializing a casing perforating gun,—if anything?

A. I took the Rembert gun and experimented with it on top of the ground; that is, digging holes, just test holes to familiarize myself with the shooting of it, because I had never seen the gun shot until I had shot it, and so I experimented with it for some time, and in that manner—

Q. Did you do anything else with respect to guns at that time, perforating casing guns?

A. Yes, sir.

Q. What was that?

A. About the latter part of 1931, or sometime in '31 I started to working with an electrical firing gun.

Q. Was that for the purpose of perforating well casings in well bores? A. Yes, sir.

The Court: Is the Rembert gun a mechanical gun?

The Witness: Yes, sir.

Q. By Mr. Mellin: Now, I show you letters patent, patent to M. O. Johnston, No. 2,048,451, filed December 19, [74] 1932 and issued July 21, 1936, and ask you if the electrical gun that you designed or did experimental work with, as you testified to, is shown in that patent.

A. Yes, sir.

The Court: What is the number of that in Exhibit 17, for identification, or the letter?

Mr. Mellin: That is 17-T, your Honor.

(Testimony of M. O. Johnston)

Q. By Mr. Mellin: Did you go on and commercialize those guns at that time or not?

A. No, sir, I did not.

Q. Will you state the reason, if there is any, for your discontinuing the commercialization of those guns at that time?

A. I learned of the Mims patent sometime in 1932 and was advised that if I commercially shot any kind of a gun that I would be infringing the Mims patent.

Q. Is that the Mims patent No. 1,582,184, filed March 3, 1924 and issued April 27, 1926, and which is marked 17-G, for identification, which I now show you?

A. Yes, sir, that is it.

The Court: Is that M-i-m-s?

Mr. Mellin: M-i-m-s, yes, your Honor.

Q. By Mr. Mellin: When did you next commence to commercialize, with the end in view of commercializing casing perforating guns, Mr. Johnston? [75]

A. In 19—

Q. Just strike that. Your company is now making a gun, is it? A. Yes, sir.

Q. Will you state whether or not that gun is known as the Johnston perforator gun? A. Yes, sir.

Q. When did you commence to work with it, with a view of commercializing it? A. In 1941.

Q. What is the origin,—so far as you know, what is the origin of the design of that gun? I mean, was the original designed at your plant, or was it designed by someone else?

A. It was designed by someone else.

Q. Who was that?

A. Collins and Associates.

(Testimony of M. O. Johnston)

Q. Is that Arthur J. Collins of Corpus Christi, Texas?

A. Yes, sir.

Q. Will you state whether or not you built that gun under a license from the Collins or the patents held by Collins? [76]

* * * * *

Q. By Mr. Mellin: Mr. Johnston, you have seen and read the Collins patents—this is not in that book, your Honor—Nos. 2,295,634, 2,305,139 and 2,307,360?

Mr. Foster: That is objected to.

Mr. Mellin: Just a moment, Mr. Foster. I asked him if he had read them.

The Court: It is preliminary. Overruled.

The Witness: Yes, sir, I have read them.

Q. By Mr. Mellin: Do you understand the gun that is disclosed in there? A. Yes, sir.

Mr. Mellin: If your Honor please, this man has identified himself with the oil industry and the drilling of oil wells and testing of oil wells for 38 years, and the patents are descriptive—[78]

The Court: There is no question pending now.

Mr. Mellin: But I just want to point out that objections to the qualifications of the witness as to reading patents and understanding what is in them are merely—are unnecessary.

Q. By Mr. Mellin: Now, Mr. Johnston, do you know of your own knowledge whether or not the perforating gun which you identified as the Johnston perforating gun, conforms substantially or does not conform substantially to the disclosures of those Collins patents? [79]

* * * * *

(Testimony of M. O. Johnston)

The Court: By "disclosures" do you mean the illustrations?

Mr. Mellin: I will limit it to the illustrations, your Honor.

Mr. Foster: May the objection be read, your Honor?

The Court: Please read the objection.

(The objection was read by the reporter.)

The Court: Overruled.

The Witness: Yes, sir.

Mr. Mellin: I offer the book of the Collins patents in suit—there are three patents, your Honor—as Plaintiff's Exhibit 11. [80]

* * * * *

The Court: The book will be received as Plaintiff's Exhibit— [81]

The Clerk: 11.

The Court. —11, and the three patents as 11-A, 11-B, and 11-C.

(The book and patents referred to were marked Plaintiff's Exhibits 11, 11-A, 11-B and 11-C, and were received in evidence.)

Mr. Foster: We haven't secured copies of all three.

Mr. Mellin: I beg your pardon. I have the book and can give it to you. I have an extra copy. I am sorry, I forgot to give it to you.

Q. By Mr. Mellin: Now, prior to the time that you commercialized this Johnston perforator gun, Mr. Johnston, did you do any development work on it?

A. Yes, sir.

Q. Over what period did that extend?

A. About 1941 to 1943.

(Testimony of M. O. Johnston)

Q. Then, as I understand it, to what expense, if any, did you go in this development work on this perforator gun?

A. I went to quite a bit of expense with it.

Q. Was that expense in the development work directed to the gun itself, or was it directed to something else?

A. To the gun itself.

Q. State whether or not you did any research work on the matter of connecting the gun to the tester?

A. No, sir. [82]

Q. Did you go to any expense in that connection?

A. Oh, five or six dollars.

Q. Now, does the plaintiff assemble a Johnston tester, a pressure recorder and a Johnston perforator gun in that order on the lower end of tubing for lowering into a well bore to, first, perforate the casing, and thereafter test the well?

A. Yes, sir.

Q. And what advantages obtain by running those three tools in that manner in a well bore, Mr. Johnston?

A. The saving of time.

Q. By that you mean what?

A. Well, in running the tester and the gun together, it is just one service, and we save time by running the two together overrunning the line gun, then removing the line gun and then running the tester in and removing the tester.

The Court: Mr. Johnston, if I were drilling a well and ordered one company to come out and perforate the casing and another company to come out and run a test how much time would I save if I had one concern, such as the plaintiff here, do both at the same time?

(Testimony of M. O. Johnston)

The Witness: Well, your Honor, the best I can figure out in an overall period from shallow wells to the deepest wells, it would probably be around three hours average.

Q. By Mr. Mellin: Now, Mr. Johnston, when did it [83] become, if you know, rather common to perforate well casing prior to making the water shut-off test in the well?

A. I would say from 1934 up to this time.

Q. During the period from 1934 to 1943, will you state whether or not it was common or uncommon for your company to run your tester after the well had been perforated by some other company?

A. Yes, sir, it was a common thing, a common practice.

Q. And what about today?

A. It is a common practice today.

Q. Were those tests that were made by your tester after the preperforations, which had been previously perforated by running a gun on the line,—were those tests as satisfactory as they are today in the instances where you run the tester with the gun assembled on the lower end of the tubing?

A. Yes, sir, as far as I can determine, they are.

Q. Now, when you speak of a line gun, Mr. Johnston, would you explain that for us, please?

A. A line gun is shot electrically and run on a flexible cable.

Q. As distinguished from running something in on tubing? A. Yes, sir.

Q. And the time required to run a line gun in on a line is very much less, or is it not, than running it in on tubing? [84] A. Much less.

(Testimony of M. O. Johnston)

Q. Now, will you tell us whether or not the plaintiff here operates the tester, the Johnston tester, without the gun on the bottom of it to make tests today?

A. Yes, sir.

Q. Have you likewise used the Johnston perforator gun for perforating casing without it being assembled on the lower end of the tester?

A. Yes, sir, we have.

Q. In that instance will you state whether or not the gun is run in on a tubing, into the hole?

A. Yes, sir.

Q. Now, in what proportion would you say that your company, the plaintiff here, runs the Johnston tester to make a test without also running a gun on its lower end to the times without running a gun on the lower end? Does my question confuse you, Mr. Johnston?

A. Yes, a little.

Q. In other words, I would like to know what proportion of the tests that you were making are made with the tester without a gun?

A. About 75 per cent of the time.

Q. That includes testing in casing and in an open hole?

A. Yes, sir. [85]

Q. Now, let's confine that to where you are making only water shut-off tests in a casing. What proportion of the tests would be run with the gun and what proportion without the gun?

A. About 50 per cent of the time.

Q. Now, will you state, please, what, if any, modification had to be made in the Johnston tester in order to assemble the gun to it?

(Testimony of M. O. Johnston)

Mr. Foster: That is objected to as indefinite unless the Johnston tester that is referred to by counsel is identified.

Q. By Mr. Mellin: The Johnston tester that you are operating today, Mr. Johnston? May I strike that, please?

Is the tester that you are operating today without the gun identical with the tester you operated before you ran the Johnston perforator gun? A. It is, sir.

Q. Now, what changes, if any, did you have to make in the construction or operation of the Johnston tester which you operated before you commercialized the Johnston perforator gun, in order that the Johnston perforator gun could be assembled on the lower end of it?

A. None at all.

The Court: The tester you are referring to that you now use is illustrated in Exhibit 6; is that correct? [86]

Mr. Mellin: Yes, your Honor.

The Court: Which is the catalog, and also in 17-U, for identification?

Mr. Mellin: That is correct, your Honor.

* * * * *

Q. By Mr. Mellin: Mr. Johnston, are you familiar with the operation of the Johnston tester?

A. Yes, sir.

Q. And are you familiar with the operation of the Johnston perforator gun? A. Yes, sir.

Q. Are you familiar with the operation of the Johnston tester and the Johnston perforator gun when the gun is connected to the lower end of the tester and they are run into the hold simultaneously? A. Yes, sir.

(Testimony of M. O. Johnston)

Q. And under those circumstances the gun is first [87] fired to perforate, is it? A. Yes, sir.

Q. And thereafter the tester is operated to test the well? A. Yes, sir.

Q. Now, you are familiar with the operation of the Johnston tester before you commercialized the Johnston perforator gun? A. Yes, sir.

Q. Is that the same or different from the operation of the Johnston tester that is run today with a gun connected on the lower end? A. Exactly the same.

Q. Now, when a Johnston perforator gun is run in on the lower end of a tester, will you state whether or not the operation of the tester is the same or different from the operation of the tester which you ran or which you run without the gun being assembled on the lower end?

A. It is the same.

Q. You have testified, as I understood it, that you have run this Johnston perforator gun without having it connected to the lower end of a tester?

A. Yes, sir.

Q. And you are familiar with that operation?

A. Yes, sir. [88]

Q. Now, will you tell us what differences, if any, and the similarities, if any, there are in the operation of the gun where it is run in on the lower end of the tester or separately from the tester?

A. There is no difference. It is just the same.

Q. Will you state whether or not the procedure of firing the gun, when it is run in on tubing without the tester, is the same or different than when the gun is assembled on the bottom of the tester?

A. Just the same.

(Testimony of M. O. Johnston)

Q. I hand you what purports to be a license agreement, entered into on the 14th day of December, 1942, between A. J. Collins of Corpus Christi, Texas, hereinafter sometimes referred to as Collins, and Johnston Oil Field Service Corporation, a corporation of Houston, Texas, hereinafter sometimes referred to as Johnston, and ask you if you can identify that instrument.

A. That is the license agreement that I entered into. [89]

Q. And I notice this one is not signed by Mr. Johnston. Can you explain that fact?

A. I cannot.

Q. And this is the license that you referred to that you have under the Collins patents?

A. Yes, sir.

Q. I notice that this also—that this is for the Johnston Oil Field Service Corporation, a Texas corporation. Can you explain that fact?

A. The corporation in Texas, of which I am the principal stockholder and president of, we took that in that corporation's name at that time.

Q. And do you pay royalties under this license agreement to Collins?

A. Yes, sir, we do.

Mr. Foster: Objected to as immaterial and not the best evidence.

The Court: Overruled.

Q. By Mr. Mellin: On what testers—I mean what guns that are made by you do you pay royalties under this agreement?

Mr. Foster: Same objection.

The Court: Overruled.

The Witness: The Collins gun.

(Testimony of M. O. Johnston)

Q. By Mr. Mellin: And that is what you referred to as [90] the Johnston perforated gun?

A. Yes, sir.

Mr. Mellin: I offer the license in evidence, your Honor.

Mr. Foster: That is objected to as not the best evidence. It is an unexecuted contract—not a fully executed contract. It constitutes no more than an option and relates to a different entity than the plaintiff here.

The Court: Did you sign a copy of that?

The Witness: Yes, sir.

The Court: Did you deliver a copy to Collins?

The Witness: Yes, sir.

The Court: The licensor?

The Witness: Yes, sir.

The Court: At about the time or the date it bears?

The Witness: Yes, sir.

The Court: Do you own most of the stock of the Texas corporation?

The Witness: Yes, sir.

The Court: How much of the stock do you own?

The Witness: Probably 75 per cent of it.

The Court: And you are president of the company?

The Witness: Yes, sir.

The Court: Who are the other stockholders?

The Witness: Some employees of mine—a brother that I have given stock to. [91]

The Court: You have given stock to him?

The Witness: Yes, sir.

The Court: Who owns the stock in the plaintiff corporation here?

The Witness: Myself and Mrs. Johnston.

The Court: Objection overruled.

(Testimony of M. O. Johnston)

Mr. Mellin: Would it upset our order here if we put that in as Exhibit 7?

The Court: I think it should go in as Exhibit 7. If it doesn't we will be wondering where Exhibit 7 is. That will be marked, the Collins license, as Exhibit 7 in evidence.

(The license referred to was marked as Plaintiff's Exhibit 7, and was received in evidence.)

Mr. Mellin: You may cross examine.

Cross-Examination

By Mr. Foster:

Q. Mr. Johnston, on your direct examination you referred to the casing perforator for oil wells of the Rembert patent 1,835,722, a copy of which I place before you and ask you if you recall your testimony on direct examination that that patent correctly illustrates and describes the tool which you had shipped to you from Arkansas, is that correct? A. Yes, sir.

Q. And the description of it and illustration of it are [92] accurate, are they, with regard to that tool that you tested after it arrived here?

A. Yes, sir, as far as I can see it is practically the same. I cannot recall anything that is different.

Q. That is the perforator which you are now using in combination with the tester and pressure bomb in your combined tool? A. No, sir; it is not.

Q. Your counsel has referred to the fact that you have taken out a number of patents and have been for many years in the oil business. You are able to understand that Rembert patent, its drawings and descriptions

(Testimony of M. O. Johnston)

sufficiently to say that it illustrates and describes the tool that you actually tested?

A. From the face of it, yes, it looks the same.

Q. Now, what would it be necessary to do to the gun perforator that is illustrated in that Rembert patent No. 1,835,722, in order to place it in a combined tool—that is, to combine it with a tester as a unitary tool?

A. Very little.

Q. Would you describe every change which in your opinion would be necessary?

A. Well, I would change the rod that holds the firing member, that strikes a cartridge.

Q. That is the rod 19 you are referring to? [93]

A. Yes, sir.

Q. In your Figure 5? A. Yes, sir.

Q. What change would you make there?

A. I would bend the rod in some manner, place it over near the center where I could run it up in the center of my testing tool.

Q. You would run the rod 19 in Figure 5 upwardly?

A. I don't see that—I can't locate where it is numbered. I think that is 25a, the rod I am referring to.

Q. In what figure, Mr. Johnston?

A. In Figure 6.

Q. Well, that rod 25a you would extend in the center of the tool upwardly to the surface of the ground?

A. Yes. I would enclose it inside the housing and run it up through my testing tool.

Q. And is that the rod which releases the springs to discharge the cartridges?

A. Yes, sir.

Q. Is this tool suspended on a hollow tubing or drill string? A. Yes, sir.

(Testimony of M. O. Johnston)

Q. Where in the patent do you find that teaching?

A. I don't know. I haven't read the patent in years.

Q. Well, if that rod, 37, on which the tool is suspended [94] were a solid rod you would have to change that, wouldn't you?

A. 37?

Q. That suspends the tool in the well. If that is solid you would have to make it hollow—make it a hollow tube, would you not?

A. Yes.

Q. And what other changes would you make in order to combine this perforator with a tester to provide the combined Johnston combined tester and perforator which you are now using?

A. I wouldn't make any other changes in this gun to combine it with my testing tool other than run the rod up through the center of my testing tool and do some minor packing off.

The Court: The figures you are referring to are all on Exhibit 17-M?

Mr. Foster: Mine are not lettered, your Honor.

Mr. Mellin: 17-M, yes.

The Court: For identification.

Mr. Mellin: Yes.

Q. By Mr. Foster: Now, what do you mean by some changes in the packing off? What would you do?

A. Well, as I run it through the center tube of my testing tool I would have to pack off in the center tube. [95]

Q. Well, do you mean that you would run the gun, Rembert perforator through your testing tool?

A. I would run the rod, Mr. Foster, up through my testing tool—not the gun. The gun would be just screwed on the bottom.

(Testimony of M. O. Johnston)

Q. And you have listed all the changes that would be necessary to make a commercially practical tool from the Rembert patent perforator and a sample tester?

A. I have listed what I thought was the major changes, yes, sir.

Q. Would you list any others that you think necessary to provide commercial advantages of your combined tester and perforator?

A. Not offhand, no, sir.

Q. Now, this tool that you had like this Rembert patent, how did it operate to fire?

A. It operated by driving this rod down and releasing those firing members, striking a firing pin in back of the cartridge.

Q. Now, with reference to this patent—you see the record is not very clear when you say “driving this rod down”. Referring to the drawings of this Rembert patent before you, what was done to cause the gun to fire?

A. That is about the best explanation I can make of driving a rod, which I think is 25a, downward by dropping [96] what is commonly known as a go-devil or rod on top of it.

Q. Well, do I understand that it operated, referring to Figure 5 there, Mr. Johnston, and the rod 37, as I understand suspends the gun. Do you mean a go-devil was dropped down there on the plate 34 so that springs were released to fire the gun?

A. This 37 rod does not fire the gun.

Q. No, you misunderstood me, Mr. Johnston, I think. The rod 37 suspends the gun in the well, does it not?

A. It could, yes. I think it shows that rod 37 suspends the gun.

(Testimony of M. O. Johnston)

Q. Do I understand that to fire the gun a weight or go-devil was dropped down around that rod 37 onto the plate 34 to release the springs which fire the cartridges?

A. That is the way I understood it.

Q. Now, in the test which you performed of the Rembert gun, which was sent to you from Arkansas, how did you fire that gun?

A. We fired it by driving down on that rod and releasing those spring members that were back of the gun.

Q. Do I understand that you dropped down a weight which fitted around this supporting rod until it hit a plate which released springs, is that it?

A. It hit on top—just hit on top of the rod and drove the rods down. This little rod had an offset place [97] made on it and when that rod moved down, why, that spring member dropped off, each one of them. They all dropped off at the same time.

Q. Now, these spring members and so on—it is difficult for one reading the record to know what is meant. Will you point out how the gun that you actually operated, how you fired that gun with reference to the Rembert patent and the numbers given the parts there?

A. Well, the rod 25a and the spring member 21a and this offset place on the rod, it looks like Figure 2aa. That rod was moveable and by driving down the rod 25a the dogs that are made onto that rod released the spring member 21a, the spring member driving a firing pin 19 and striking a cap in the cartridge 15 and firing the bullet at a barrel 16.

Q. This was not the gun that you experimented with to combine with the tester to provide your present combined tool, was it? A. No, sir.

(Testimony of M. O. Johnston)

Q. You mentioned discussing with Mr. Rembert the taking of a license under that patent to make and use this perforator of his patent in California. Did you ever take such a license? A. Yes, sir.

Q. These tests that you performed here in California with the Rembert gun, will you describe them to us? [98]

A. Those tests were test holes dug in the ground like a round hole, like we would dig with a bit, and the casing was placed in this hold and then cement poured around the outside and then we would put the gun inside and we would fire the gun and see what penetration we had to more or less familiarize myself with the gun because I had never operated the gun until it came out here to California.

Q. And that was about 19—

A. It was in September 1930.

Q. Before that time gun perforation was new to you, is that right? You had no personal knowledge of it?

A. Only the personal knowledge I had of Mr. Rembert shooting the gun in Eldorado, Arkansas, which was only hearsay.

Q. Now, how deep were these test holes where you operated the Rembert gun?

A. Oh, they were probably six or seven-foot deep.

Q. Now, did you ever sell any of the Rembert guns?

A. No, sir.

Q. Did you ever make any of them?

A. No, sir.

Q. Why not?

A. Well, I didn't think after my experimenting with the Rembert gun that it would suit the needs of California operators. [99]

(Testimony of M. O. Johnston)

Q. In what respects were the Rembert gun deficient in filling the needs?

A. The sealing for one thing—the sealing means at the cartridge.

Q. You mean the sealing means between the cartridge and the cartridge bore?

A. The cartridge and the opening—the well around it. The hydrostatic head I assumed and later heard that there was quite a few hundred pounds pressure in front of the bullet which would drive the bullet back into your cartridge and destroy, wetting the powder, and it wouldn't perform.

Q. By that you mean—do you mean that if you used this Rembert gun and went down a few hundred feet in a well filled with mud the mud pressure would detrimentally affect the cartridge or the bullet?

A. The bullet, yes.

Q. It would push the bullet back against the cartridge, would it? A. I assumed that, yes.

Q. And that is your engineering experience and your practice in the oil fields and it indicated to you in 1930 that the Rembert gun was impractical at a depth of more than a few hundred feet of mud, is that correct?

A. That is correct, sir. [100]

Q. Now, what other deficiencies were there that caused you to not manufacture or sell the Rembert gun?

A. Well, that deficiency and taking the back off—we also had a sealing problem in taking the back off to set the springs. We had a sealing problem there that would be hard to overcome but I didn't think it was practical to unweld it every time you run one of them. I thought that could be remedied.

(Testimony of M. O. Johnston)

Q. Now, that isn't clear to me, Mr. Johnston. What part here in the patent drawings do you have to unweld or take off each time you run the gun? A. Part 14.

Q. In Figure 1? A. Figure 5.

Q. Part 14? A. Yes.

Q. Do I understand that that part, 14, was a plate that went along a chamber opposite the cartridge?

A. I am pretty sure it is, Mr. Foster. It looks like it.

Q. At any rate, there should be a plate there to make the gun operate? A. Yes, that is correct.

Q. And that plate had to come off every time and that rendered the tool impractical for California operations? [101]

A. Well, it was a sealing problem there and, too, the sand here in California was much greater in depth than we had experienced in Texas or I had experienced, and to run a four-shot gun with all that sealing and shooting maybe 1,000 holes or more, which we do out here with the depth at which we drill, I did not think it was practical to do that. It would be entirely too slow in dragging drill pipe out with the trips back and forth. It would be too slow.

Q. Well, this Rembert device could be made to fire any number of cartridges, as I understand it.

A. Yes, I suppose—yes, it could.

Q. Now, although you took a license wasn't it a factor influencing you not to make this Rembert perforator the fact that you had a rather involved mechanical spring mechanism for firing these guns? Wasn't that it?

A. No, sir; no, sir.

Q. You feel that was all right?

A. That was all right, yes.

(Testimony of M. O. Johnston)

Q. But the principal objection then was that relatively high hydrostatic pressure acting upon the bullet end of the cartridge which rendered the gun impractical?

A. That is correct, and, too, we would like to shoot in opposite directions instead of just one side, and I don't know whether I could have—I didn't think so at the time, but I wondered if I couldn't turn one bullet one way and one [102] the other in this firing mechanism.

The Court: You are referring to the Rembert gun?

The Witness: Yes, sir, the Rembert gun.

Q. By Mr. Foster: Now, why did you take a license under the Rembert patent if you didn't think it was a practical tool?

A. At the time I received this gun I knew very little about it. I had seen it and it had been doing some work and it was the only one that I knew of and I would like to have a license under it if I could make it work. If I could make it work I would certainly try to do so. [103]

Q. But after your testing work, it was your feeling that you wouldn't recommend this patent to anyone to combine with the tester, that you would combine the tester and perforator, that is the tool you are now using; that is true, isn't it?

A. I never thought about recommending it to anyone at the time.

Q. You would not now recommend it to anyone, to combine with a tester?

A. I would have to think that over because I hadn't thought about it.

(Testimony of M. O. Johnston)

Q. At the time you were doing this work, in September, 1930, you had no conception of combining the gun perforator with a tester in a single unitary tool?

A. I can't say that I didn't.

Q. When would you say that you first had the desire or conception of doing that, Mr. Johnston?

A. I may have thought of that when I heard of Mr. Rembert's gun because I had the testing tube, and I wanted the gun. I can't say that I didn't think of the thing.

Q. Nor that you did? A. No, nor that I did.

Q. Can you fix any time when you can state positively that you did have a desire and conception of combining in a unitary tool your gun perforator and the tester? [104] A. Not definitely, no, sir.

Q. I direct your attention to Plaintiff's Exhibit 8, a folder illustrating a Johnston well tester, which I understand you had used. Between what dates did you use that tester? A. From 1927 to 1930.

Q. And that tester, as I understand it, it is used in a rat hole at the bottom of an open well; is that correct?

A. Yes, sir.

Q. And the only packing is between the testing tool and the shoulder which is between the rat hole and the open bore hole; is that right? A. Yes.

Q. Would you describe, in a general way, how that packer is seated and the well fluid gets into it and is withdrawn with the tester from the well?

A. Do you want me to describe the well also?

Q. Yes.

A. I would have to do that to be able to describe it.

(Testimony of M. O. Johnston)

Q. If you will, please.

A. The testing tool is screwed on the bottom of the drill pipe or tubing. This cut shows what we call a formation packer, tapered packer.

Mr. Foster: Pardon me, Mr. Johnston. Is it agreeable to the court and to counsel if we mark the parts he refers to? [105]

Mr. Mellin: They are already marked. Aren't they?

Q. By Mr. Foster: Do they have numbers or legends?

A. "Packer," "Mud," "Emergency Valve," "Valve Spring," and "Main Valve."

Q. Will you describe them, then, with respect to the legends that appear on them?

A. You will have to read my answer.

The Court: Just tell how it works as illustrated on there. That is Exhibit 8, isn't it?

Mr. Foster: Yes, sir.

The Witness: The testing tool is screwed on to the bottom of the tubing, and the tubing or the testing tool itself is not marked, as a whole. The testing tool includes a main valve, which is marked; a valve seat, which is indicated; an emergency valve, which is indicated; a heavy spring, which is not indicated; the tapered packer, which is indicated by "Packer"; a perforated bull plug, which is not indicated. The testing tool is assembled on the tube carrying the mechanical features which I have just mentioned. The packer is tapered, the hole, the main hole carried to the top of the ground is filled with mud, which is indicated. A smaller hole is bored within the oil sand, which is indicated and called a rat hole. We run this assembly to the top of the hole, placing the tapered packer

(Testimony of M. O. Johnston)

which enters the rat hole packer, forming a seal on the shoulder, which is not [106] marked, dividing the main hole into one zone and the rat hole into another, which we call upper and lower zone.

Q. By Mr. Foster: Pardon me, Mr. Johnston. You said that you lowered the conical packer into the rat hole packer. You mean into the rat hole itself, not the packer?

A. That rat hole itself. I beg your pardon. Further downward movement of the drill pipe or tubing after seating on the shoulder of the main hole in the rat hole opens an upwardly-seating valve, the main valve, which maintained the tubing or drill pipe dry all the time we were going into the well, and no fluid had entered the drill pipe until this boxcar spring had collapsed, opening this valve. The packer holding your mud in the main hole, relieving your rat hole, where your test is to start in your sand, open to the atmospheric pressure into the drill pipe or tubing.

The Court: What operates the spring?

The Witness: The downward movement of the pipe. This is packed off here to a telescoping member. This is loose on this member, and there is a nut that tightens up the spring, that draws your valve down tighter to your seat, and this drill pipe or tubing is so heavy when you make that downward movement it collapses the spring, causing the valve to open.

The Court: Is that only when the tubing reaches a point below the packer?

The Witness: It is only when the packer comes in contact [107] with some obstruction that will stop it. When it does, the heavy tubing will slip this down, col-

(Testimony of M. O. Johnston)

lapsing this spring, making this seat move away from that valve.

The Court: In other words, when the wedge-shaped packer reaches the rat hole, that is when that operation occurs, when the spring is supposed to collapse?

The Witness: Yes, sir. When it hits that obstruction, it can't go any farther, and the spring starts collapsing and your seat moves downward, leaving your valve stationary, and your mud starts in—I mean, your test from out of the sands into your perforations upwardly into this valve, and into the empty drill pipe or tubing.

The Court: All right. The valve has been closed up until the point where the spring collapses?

The Witness: Yes, sir.

The Court: Then it opens and permits the pressure to force the fluid up into the tubing; is that correct?

The Witness: Yes, sir. That is the formation pressure. This mud pressure, this casing or open hole in this well will be full, and even to the rat hole, will be full of fluid to the top of the oil well.

The Court: Yes, I understand.

The Witness: Yes, sir.

The Court: The test fluid is supposed to enter through the end of the testing instrument down in the rat hole, is it? [108]

The Witness: Yes, sir, that is correct.

The Court: And how does it close, now?

The Witness: So when we have accumulated all that we want inside the empty drill pipe of the formation fluid,—

The Court: How would you know that?

(Testimony of M. O. Johnston)

The Witness: There is an indication on top of this fluid that we can reach. In the practice at that time, why, we would wet a rag and put it over the top of the tubing and when the valve would open up the rag would fly up, and as long as your fluid was there the rag would flutter. Sometimes it would be so heavy it would blow off. And when the flow stopped, the rag would settle and rest down, and we would know we had reached our limit.

The Court: Now, it is filled to the desired level with fluid. How does it close?

The Witness: We are attached at the top of the drilling floor with drilling equipment, and we start pulling up on the tubing. The first thing that moves is your spring that is trying to open up, and as we go upward further this valve snaps shut.

The Court: Through weight?

The Witness: Through weight, relieving the weight off of this spring.

The Court: Or relieving the pressure?

The Witness: No, relieving the weight of the drill pipe. [109] As we pull up,—the drill pipe now is seating and, we will say, the entire weight is seating on this spring, the entire weight of the drill pipe.

The Court: About where would that spring rest in this diagram?

The Witness: It would be entirely collapsed.

The Court: Yes, but would it be these round (indicating)—

The Witness: Yes, sir. This is the indication.

The Court: Just opposite the word "mud" on either side?

The Witness: Yes, sir.

(Testimony of M. O. Johnston)

The Court: —of the hole?

The Witness: Yes, sir. That is true, and this is packed off, and this is packed off too, and it is just placed in there, the collapsing member, and we take the tension off of this spring. This is not an exact drawing of the tool; that is, we didn't go into great detail on it.

Q. By Mr. Foster: Mr. Johnston, there is a shoulder shown in Exhibit A8 that the bottom of the main bore hole and the top of the rat hole against which your conical packer seats, is there not? A. Yes, sir.

Q. And isn't it the custom and wasn't it then the custom to seat that conical packer against that shoulder, with the full weight of the drill pipe?

A. That depended on the depth, Mr. Foster. [110]

Q. But at some depths wasn't it the custom to seat the conical packer, marked "Packer," in Exhibit 8, upon this shoulder at the top of the rat hole, with the full weight of the drill pipe?

A. Oh, I think so. I never paid any attention to it. If it was a shallow well, I slacked it all off, and I didn't pay any attention.

Q. But if it was a deep well or if you had a soft formation, you would lower the entire pressure of your drill pipe to seat that conical drill spring?

A. The entire pressure, no. It is according to the depth, because at a great depth in a large hole, if you put your entire weight on that with your limber drill pipe you are likely to crook it.

(Testimony of M. O. Johnston)

Q. Under no circumstances did you ever lower the whole weight of the drill pipe on the conical packer, marked "Packer" in Exhibit 8?

A. Yes, I have, I suppose, in shallow depths, where your drill pipe wouldn't be a burden, and I didn't pay any attention to it. But in a deep well, why, we were careful about how much weight we would put on those.

Q. Well, it was a fact that if you didn't seat that conical packer, marked "Packer" in Exhibit 8, in fluid tight engagement with the shoulder at the top of the rat hole before you opened your main valve, then you would cut that packer out [111] by the circulating or by the mud above the packer being forced down below and dropping into the—

A. Not before we opened the main valve. We have no movement before we open that main valve.

Q. Now, this packer in Exhibit 8 was used only in open-hole testing, was it not? A. Is this Exhibit 8?

Q. Yes.

The Court: The answer is "Yes"?

The Witness: Yes, sir.

Q. By Mr. Foster: It was not used and could not be used in performing a test in casing?

A. I wouldn't say it couldn't be used, but we never used it.

Q. Didn't you always run your tester of Exhibit 8 in an open hole with a jar? A. No, sir.

Q. Never?

A. Yes, sir, we do run jars, but I don't think we run a jar here until, oh, it was probably '33, in competition with the tester.

(Testimony of M. O. Johnston)

Q. And since 1933 have you in open-hole testing usually employed a jar in connection with the tester?

A. That is the privilege of the operator. If they want to use a jar, all right. It is up to them. It is a separate [112] service.

Q. Now, referring again to Exhibit 8, when you opened up the valve marked "Main Valve," you say that the formation liquid would rise up through the tester in the drill pipe to a level indicated by the pressure in the formation?

A. Yes, sir.

Q. And if there were sufficient pressure in the formation, I suppose that the liquid would flow out of the top of the drill pipe at the well?

A. That is correct.

Q. And in such event would you just leave this tester in the well and let the well flow?

A. No. We have had occasions when we have left it in the well and let it flow, but it has been rare indeed, because it is very dangerous to leave a formation tester in a well over any period of time in an open hole.

Q. But you would say that this Johnston tester of Exhibit 8 had utility, in that it would permit the well to flow through it if the pressure were sufficient to make it a flowing well?

A. That is common practice in flow tests, without a tester.

Q. Yes, but I mean you would say that this Johnston well tester did have utility and was desirable in the respect that it would permit the well to flow upwardly through it to [113] the surface, if the pressure were enough in the formation?

A. Yes, sir, it has had utility all the way through.

(Testimony of M. O. Johnston)

Q. In that respect, I say is your answer "Yes"?

A. Oh, yes, I will say "Yes."

Q. Now, with this Johnston well tester of Exhibit 8, was it possible, if the pressure in the formation were low, to run a swab down through the drill pipe and draw liquid from the formation into the tester?

A. It is possible, yes, sir.

Q. You did that?

A. Not in particular drill pipe and tubing. In drill pipe usually it will flow—

Q. Well, in tubing—

A. It is feasible. They don't do it.

Q. But they do it sometimes?

A. In practice it can be done, yes, sir.

Q. And you did it with this tool, Exhibit 8?

A. I never did it with the tool. That is entirely up to the operators, if they do that.

Q. Well, do you recall that between 1927 and 1930, when you were using this well tester, Exhibit 8, swabbing operations were performed while the tester was seated in the hole?

A. Yes, I recall one that I ran myself at Kettleman Hills. I don't know, I think we were testing a pressure bomb, but I think it has been done, Mr. Foster, within my organiza- [114] tion.

Q. Now, what must be done—first, can this Johnston well tester of Exhibit 8 be combined with a perforator to provide the combined perforator and tester which you are now making, and which is the subject of this suit?

A. Yes, sir.

(Testimony of M. O. Johnston)

Q. Would you recommend that a tester, such as in Exhibit 8, be combined with a perforator for any purpose? A. If they wanted to combine—

Mr. Mellin: Just a moment. I object to that question, what he would recommend. What difference would it make? If it is, what is his opinion—

The Court: This is another way of asking that question, whether in his opinion it would be desirable.

Mr. Mellin: He might recommend to sell it.

The Court: I suggest you reframe the question, Mr. Foster.

Q. By Mr. Foster: In your opinion, is this Johnston well tester of Exhibit 8 a desirable construction to combine with a gun perforator to provide a unitary tool, such as is the subject of this suit?

A. Yes, that is all right.

Q. What change would be necessary in the tester of Exhibit 8 in order to combine it with a perforator gun to provide a unitary tool, such as you are now using? [115]

A. There wouldn't be any, other than to put a threaded member down below and a different packer on it.

Q. In other words, you would substitute a different type of packer for the conical packer, and you would put a thread on to the bottom of the tool, a gun perforator?

A. That is if they didn't want to shoot in the formation. If I wanted to shoot in the formation, I would leave the packer, the conical packer on and shoot.

Q. Would you have to put on slips and reins and other like devices? A. No.

(Testimony of M. O. Johnston)

Q. How would you fire the gun which you contemplate attaching to this Exhibit 8?

A. I would put on springs on the gun that would fit the rat hole and go down and turn in the regular way, and fire the gun. Then let down and make my tests.

Q. In other words, you would put on springs such as you now have on your combined tool, to enable you to rotate the upper end of the tubing enough times to fire the gun, such as you have in the combined tool, and then you would use this tester to take the sample through the perforations made by the gun?

A. Whatever it is, if they are going to shoot in the formation the perforations.

Q. You would in casing have to have an entirely [116] different type of packer, would you not?

A. Yes, sir.

Q. You have said that you knew some men in your organization had run a swab down through the tubing in a tester such as Exhibit 8. What was the purpose of that swab, would you tell the court, please?

A. Well, offhand I don't know. The companies run them and the swab is if you probably have a low head well or well that doesn't give up readily. Now, this isn't in a formation test. This is in a casing test I am speaking of.

Q. In other words, it is not an open hole?

A. Not this open hole test. It is a casing test, and through the testing tool it hasn't given up probably what they thought, or maybe it has, but they want to see if they can bring some more in and they run a swab in and relieve that, to bring the fluid out, and they can be doing that and let it come in the testing tool to see if

(Testimony of M. O. Johnston)

there is any mistake made. That is the company's business, it is not mine, and we do not mark it on the tickets.

Mr. Foster: I just wanted to see if my understanding were clear.

The Court: By casing test, you mean, of course, where the casing is perforated by the gun and the fluid is taken into the hole through the casing?

The Witness: Yes, sir. I would go a little further— [117]

The Court: Your open hole tester is such a one as is illustrated on Exhibit 8?

The Witness: Yes, sir. [118]

Q. By Mr. Foster: That swabbing operation as I understand it, serves to draw the liquid from the formation in the tester, is that correct?

A. Mr. Foster, that is a supposition on my part. I don't know what that does.

Q. Well, now, you have been for years in the oil industry and are familiar with all its operations. Isn't that what they use it for?

Mr. Mellin: Just a minute.

The Witness: Not in the testing tool. In the testing tool it is to relieve something. A swab is normally used in casings without a testing tool, to relieve the pressure off of the sands when they are bringing them in. They either use a swab or bailer and dip it out. Now, that is what a swab and a bailer is used for.

Mr. Mellin: Now, if your Honor please, I am going to object to further examination along this line of swabbing. "Swabbing" is a well operation entirely distinct from testing or shooting or any of the issues.

(Testimony of M. O. Johnston)

We do not make the swab. We don't run a swab as the witness testified, and I see no point in it. And it is entirely immaterial and I object. And besides, I object on the ground it is improper cross examination, too, because this witness has not testified to any swabbing.

The Court: There is no question pending. Put your next [119] question.

Q. By Mr. Foster: This device, Exhibit 8, is that the same device which is illustrated and described in Patent No. 1,790,424 which is—

The Court: What is the name of it?

Mr. Foster: Johnston patent.

The Court: That is Exhibit 17-Q.

Mr. Mellin: Just a minute, your Honor, and I will find it.

Mr. Foster: They are not marked here.

The Court: 17-Q for identification.

Mr. Mellin: What is the number?

Mr. Foster: 1,790,424.

Mr. Mellin: That is 17-L, your Honor. May I suggest, Mr. Foster, you take my book and fix your book up with the numbers.

Q. By Mr. Foster: You have the question?

A. No, I haven't.

Mr. Foster: Will you read the question?

(Question read.) A. No, sir.

Q. By Mr. Foster: You did make and use the device that is illustrated in the patent 17-L, did you not?

A. No, sir. I never run that device.

Q. Why not, Mr. Johnston? [120]

A. I just didn't have one of them.

(Testimony of M. O. Johnston)

The Court: You are referring now to Exhibit 17-L for identification?

Mr. Foster: Yes, your Honor.

Q. By Mr. Foster: Was it a fact that you did not consider it a sufficiently good tool to build and operate one of them?

A. Oh, yes, it was a good tool on the face of it. The only difference in the one that I ran, it was the same type of valve but was placed up above the packer.

Q. Now, you are referring to the valve which is at capital M? Is that the valve you are referring to?

A. Yes, sir.

Q. And that valve you say was placed up above the packer marked capital O and by the spring capital R?

A. Yes, sir.

Q. And otherwise it was the device—the device you made was the same as Exhibit 17-L? The device or construction was the same but the valve was placed above the packer instead of below the packer.

The Court: You are referring to the device described on Exhibit 8?

The Witness: No, sir; I am not.

The Court: With the exceptions you have noted?

The Witness: No, sir, not quite. [121]

The Court: You are talking about the device pictured on Exhibit 17-L for identification and what are you comparing that with in your testimony now?

The Witness: Comparing it with this one.

Mr. Mellin: Exhibit 8.

The Witness: Exhibit 8.

The Court: Yes.

(Testimony of M. O. Johnston)

The Witness: And in Exhibit 8 the valve in the testing tool—that testing tool is a downwardly seating valve and in Exhibit 17-L that is an upwardly seating valve. That valve was changed. I don't recall just when because we found some difficulty in the deeper holes. If we had only accumulated not a great amount of fluid inside the drill pipe that valve would kick open.

Mr. Mellin: That is referring to this one?

The Witness: Referring to the one in Exhibit 8.

The Court: The main valve.

The Witness: The main valve, yes, sir. It would kick open after we had removed our packer and exposed it to the hydrostatic head. By changing the valve in the manner of in 17-L it didn't do that. It wouldn't kick open.

The Court: It was an upward closing valve?

The Witness: Yes, sir, it was an upward closing valve.

Q. By Mr. Foster: Now, have you pointed out the upwardly closing valve on Exhibit 17-L to which you referred? [122]

A. Yes; "E" is the valve and "M" is the seat.

Q. That is in Fig. 2? A. In Figure 2, yes.

The Court: Referring to Figure 2 of Exhibit 17-L for identification?

The Witness: Yes, sir.

Q. By Mr. Foster: Now, between what periods of time did you use the sample tester like Exhibit 17-L?

A. I never used that exact construction, Mr. Foster.

Q. You modified what features of it? Tell us how you changed it?

A. The valve was put above the packer about in the same place that the main valve in Exhibit 8—about at

(Testimony of M. O. Johnston)

the same place as the main valve in Exhibit 8 is the only difference.

Q. And what was the reason for that? Is that the reason you have given?

A. Mr. Foster, I don't know. My brother did that and I never asked him why. I never made one like it.

Q. None were ever made. No testers to your knowledge were ever made like this patent, Exhibit 17-L?

A. None to my knowledge. I didn't make any, no, sir.

Q. Now, in your opinion is this tester, Exhibit 17-L, one which could be readily provided or readily combined with a gun perforator? [123]

A. Yes, sir.

Q. To be used in a combined tool such as you are using?

A. Yes, sir.

Q. Is the device in Exhibit 17-L the device which you used in designing your gun perforator in order to make the combined tool?

A. The functions were the same, practically the same.

Q. In other words, you referred to this patent and had it before you and modified it in the respects necessary when you put out your combined perforator and tester, is that right?

Mr. Mellin: Just a moment. I think you had better quote his testimony correctly. He gave no such testimony.

The Court: The question is whether he used the tester illustrated on 17-L for identification, that precise tester in making his combined tool.

Mr. Foster: Yes.

The Court: Which is the tester and the gun.

Mr. Foster: Yes.

The Witness: I did not, no, sir.

The Court: Which tester did you use?

(Testimony of M. O. Johnston)

The Witness: I used the tester with the valve placed above the packer.

The Court: Is it illustrated here? [124]

The Witness: It is in some of these patents, your Honor.

Mr. Merlin: That is the Johnston Patent 2,073,107. That is Exhibit 17-U.

The Witness: Yes, That is the testing tool that I used when I attached the gun to it.

Q. By Mr. Foster: Now, why did you discontinue the manufacture and use of the tester like Exhibit 8 in 1930?

A. Progress. As we encountered difficulties, why, we would change. We would change as we accumulated knowledge—as the wells picked up in depth and the mud got heavier. There are numerous things that would cause you to change.

Q. Isn't it a fact, Mr. Johnston, that in 1930 having due regard to the greater depth of the wells and the greater weight of the mud that was employed, this tester, Exhibit 8, no longer was suitable to meet those needs?

A. Not all the needs. It would make a test, Mr. Foster, but it was dangerous in some instances to run at great depths—would get off the shoulder.

Q. And isn't it a fact that now whenever a bottom hole test is made and a conical packer is employed down here at the top of the rat hole, they use an additional packer higher up on the string to help hold the pressure of the mud column in deep wells?

A. That is all according to the formation we are test- [125] ing in. We take a double shot at it but if the formation is good and solid we only use one packer.

(Testimony of M. O. Johnston)

Q. Now, in this device, this tester 17-L, that is lowered into the well as I understand it on tubing, isn't it?

A. Yes, sir, the same as Exhibit 8.

Q. And you referred to a bailer. A bailer could be run down into the tubing and pulled out, couldn't it, if desirable?

A. Oh, yes.

Q. While the tester is in the hole?

A. (No answer.)

Q. That is correct, isn't it?

A. While the tester is in the hole or packer? Without a tester it could be run in there.

Q. I didn't get the last.

A. I say a packer—without a tester a bailer could be run in there.

Q. Now, you testified that your brother made a change—that is, he moved the location of the valve to above the packer in Exhibit 17-L. How long did you use the modified structure of Exhibit 17-L?

A. I never used 17-L.

Q. Even as modified by your brother?

A. As modified, moving the valve up above the packer I used it. I never did see one of these tools that I know of [126] or if he ever made one I don't know.

Q. As modified, as you explained, between what periods did you use it?

A. I used it probably from 1928 to 1931.

Q. And why did you discontinue its use? Because it no longer fulfilled the needs of drilling wells at great depths with heavier mud?

A. I didn't discontinue the use of the valve structure. The valve structure has remained the same. I added some features to it for safety—an equalizing valve to relieve

(Testimony of M. O. Johnston)

the pressure—a slip valve to relieve the pressure to let it drop below the packer without entering the tubing.

The Court: A modification of Exhibit L for identification which you are referring to now?

Mr. Foster: Yes.

The Court: Is that illustrated anywhere?

Mr. Mellin: What he is doing now is in that same patent referred to a moment ago, which is Johnston Patent No. 2,073,107.

Mr. Foster: 17-U.

The Court: 17-Q as I had it for identification. He used it around 1930 in California.

Mr. Mellin: That is correct.

The Court: I was wondering if that was an illustration of the modification he is now describing. [127]

Mr. Mellin: Yes. I beg the court's pardon.

Mr. Foster: The modification you are describing is the Johnston Patent 2,073,107.

Mr. Mellin: Just a moment. I think it is 1901, isn't it, showing the addition of an equalizing valve. That would be 17-Q as for identification. He testified in that one that he built in 1930 following the teaching of 1901893, it shows an equalizing valve with the same valve structure which shows in the one to which he just referred.

Q. By Mr. Foster: Is the modification which you referred to and which you made over 17-L, illustrated in this Johnston Patent 1,901,813? A. Yes, sir.

The Court: That is Exhibit 17-Q for identification.

Mr. Foster: Yes.

Q. By Mr. Foster: Now, you mentioned in connection with some of these testers, such as Exhibit 8, that you, as I understood you, that you had observed that

(Testimony of M. O. Johnston)

they used a conical packer at the bottom of the bore hole and another packer higher up on the string for safety reasons when they were taking a test?

A. That is Exhibit 8?

Q. Exhibit 8. A. No, sir.

Q. Or Exhibit 17-L? [128]

A. I don't know what they used on 17-L. I never used that, Mr. Foster.

Q. For the modifications such as illustrated in Exhibit 17-Q.

A. Yes, sir. At times we run two packers. Sometimes we run three. It is all in the formation that we are running in.

Q. Now, is that true of your present combined perforator and tester? Sometimes you will use more than one packer?

A. Sometimes we use two packers, yes, sir.

Q. And where are they with respect to the tester?

A. The first packer is placed relatively the same as the rat hole packer on this tool.

Q. That is at the bottom of the device?

A. At the bottom of the device, yes, sir. Then a perforation in between, another casing packer and below that casing packer we screw the gun on.

Q. And then do I understand that we may have space from the bottom of the hole, one packer with the gun between the bottom of the hole and the packer and the tester above that packer where another packer with another packer above the tester? A. No, sir.

Q. I am sorry. [129]

A. We have the testing tool and the equalizing valve and then a packer screwed onto the equalizing valve. Then

(Testimony of M. O. Johnston)

our perforation and expansion joints between that packer and a lower packer. On the second packer we screw the gun.

Q. So that we have two packers supporting the column of mud in the annulus between the tubing and the casing?

A. No, sir. We only have one packer. That is what we call a straddle job where we shoot and set between the perforations because probably the lower part of the hole is open or there may be other perforations down below that that would intermingle with the test that we are trying to make. Consequently that lower packer is used as more of a plug than anything else. The upper packer is used to divide that zone and your test comes in between the two packers.

Q. Now, that lower packer, do you set that before you perforate in that zone?

A. No, sir, we shoot—we shoot the holes and then we let down and place the two packers between the holes and then we set the packer and then we commence the test.

Q. With your tool it is impossible to set the packer before operating the gun perforator, isn't it, your combined tool?

A. Yes, sir.

The Court: You are referring now to the device in suit?

Mr. Foster: Yes. [130]

Q. By Mr. Foster: The device in suit. You so understood it, didn't you?

A. Yes, sir, I understood the gun and testing—

The Court: The device now in use?

The Witness: Now in use, yes, sir.

Q. By Mr. Foster: Now, with respect to this Johnston Patent, 17-Q, I understand that you first used that

(Testimony of M. O. Johnston)

tester in 1932 or 1933 and then changed to the design of Exhibit 6, is that correct?

A. Yes, sir, that is correct.

Q. And when did you change to the design of Exhibit 6? A. 1933 or 1934.

Q. And why?

A. Well, I didn't change the design of the main valve. I changed the design of the equalizing valve.

Q. And why did you do that?

A. I beg your pardon. This is the same tool that I am using today.

Q. I am sorry.

The Court: Which tool are you referring to now?

Mr. Foster: 17-Q.

The Court: What patent number?

Mr. Foster: 1,901,813.

Q. By Mr. Foster: Is that the tool you are using now, Mr. Johnston? [131]

A. No, sir, it isn't. I see now it is. There was a modification on that later.

Q. You discontinued its use in 1933 or 1934, is that correct? A. Yes, sir; 1933, I believe.

Q. And why?

A. It is a modification of the equalizing valve. I made an equalizing valve that worked better—was more satisfactory.

Q. Isn't it a fact that the tester of 17-Q along in 1933 or 1934 was not adequate to meet the conditions of deep well drilling and heavy mud, and was not safe enough to commend it and for that reason you re-designed it?

A. No, sir; safety didn't have a thing to do with it.

(Testimony of M. O. Johnston)

Q. Well, why did you make changes in it, then?

A. This equalizing valve would work satisfactory in a casing test but running it in an open hole test under the seat would accumulate gravel and cut out so I designed a sleeve valve that didn't have any shoulder on it and it wouldn't cut out.

Q. This valve that would cut out—does that have a number on it in Exhibit 17-Q?

A. I think that is 18.

Q. No. 18 in Figure 1?

A. 17-Q, that is right. [132]

Q. Yes. And, of course, when this valve, 18, cut out that had a bad effect on the sample in the test?

A. Yes, it did.

Q. You would lose a sample?

A. Yes. Usually when they cut out we would never get a sample to start with because it cut out immediately you opened your valves.

Q. Now, the next tester which you used after this design 17-Q was this design of Plaintiff's Exhibit 6, is that correct?

A. That is correct, yes.

Q. And that is the design you are now using?

A. Yes, sir.

Q. Now, in this device of 17-Q to which you have referred here—

The Court: Q or U?

Mr. Foster: Q, the one we were last referring to, your Honor.

Q. By Mr. Foster: 17-Q. It was also possible in that device after you had secured your sample in the tubing, 35 of Figure 1, to run down with the bailer and get

(Testimony of M. O. Johnston)

some of the sample and withdraw it through the tubing, wasn't it? A. Yes, you could do that.

Q. Now, referring to Exhibit 9—I mean that was a practical operation to do if one wanted to do it? [133]

A. Yes, if one wanted to do it, yes, they could do it.

Q. Does Exhibit 9 illustrate the same sample tester as Exhibit 6? A. No, sir.

Q. When did you make that tester?

A. This tester was made between 1928 and 1930. This was the testing tool that I brought out to California.

Q. That was like Exhibit 8?

A. No. This is an upwardly seating valve and it has a trip valve in it.

Q. When did you discontinue the use of that?

A. This is the same as the tool that I am running today with the exception of the equalizing valve and the pressure bomb.

Q. But the tester illustrated in Exhibit 9 as such you discontinued the use of it when? A. 1933.

Q. And for what reason? Because your new design better met the deep well drilling conditions and the heavier mud conditions?

A. Yes, that is correct. The equalizing valve was placed in it to allow us in the deeper well to remove the packer more easily.

The Court: As long as we are going into this history I suggest you show the witness now the illustration which is [134] marked Exhibit 17-O for identification, Patent 1,842,270.

Q. By Mr. Foster: Referring to 17-O for identification when did you, or did you ever make and use that tester? A. Yes, I did.

(Testimony of M. O. Johnston)

Q. Between what dates?

A. Between 1930 and 1932 or 1933.

Q. And why did you discontinue its use?

A. For the same reason. This is a valve housing, a valve with a face on it and in running into open formation you would accumulate shale and gravel on that face—not always, but in a great many cases, and when you opened up or set your packer down and opened up your main valve instead of the top of that packer holding it from the zone above it your fluid would enter that equalizing valve and go into your drill pipe and you wouldn't get any test at all.

Q. As I understand what you are pointing at is Figure 1 of Exhibit 17-O. The valve 25, would become worn or fail to seat because of gravel, and hence when the packer was released it is that gravel—is that the gravel to which you are referring?

A. Yes. When it was once thrown open to atmosphere, why, it would, in quite a number of cases be held open and you wouldn't get anything in your test tube but your hydrostatic head or the mud fluid in your well.

Q. And so you abandoned its use? [135]

A. I abandoned it for a more practical valve, one that that wouldn't happen to.

Q. Could this tester of Exhibit 17-O for identification be readily combined with a gun perforator to provide the combined unitary tool subject to this suit?

A. Yes, sir.

(Testimony of M. O. Johnston)

Q. Would you specify all of the modifications that would have to be made in the tester of this Exhibit 17-O to provide that unit?

A. Cut a thread on the bull plug 12 and screw the gun on it.

Q. And would that be a gun like the Rembert gun to which you referred?

A. No, sir; like the gun we are now using. The Rembert gun could be adopted to this testing tool, yes, sir.

Q. With the modifications you described in connection with the Rembert gun? A. That is correct, sir.

Q. And in that connection you would run the control for the Rembert gun upwardly through the tubing 45?

A. Yes, sir.

Q. And 46?

A. And through the packer valve 38, and that is where I would pack the rod off in 38.

Q. Now, I want you to refer back for a moment to the [136] Rembert gun and particularly to Figure 5. That is Exhibit 17.

The Court: Before you leave that subject I would like to ask the witness this question: Until you began using the tester which is shown in Exhibit 17-U for identification, depicted in Patent 2,073,107, were all those testers that you devised for use in taking an open well test only?

The Witness: Yes, sir, up until December of 1930 they were all formation tests; yes, sir.

Mr. Mellin: Up until what date?

The Witness: December 1930.

(Testimony of M. O. Johnston)

The Court: You began using your tester in taking casing tests—that is through perforated holes in the casing when?

The Witness: In December—Your Honor, there wasn't—at that time we tested just the bottom of the casing instead of shooting holes in them for this water shut-off at the shoe of the lowermost joint of this casing. They would drill out below the shoe and we tested the lower part of that.

The Court: You were still using the test of the fluid from the rat hole, weren't you?

The Witness: No, sir.

The Court: When did you begin using a tester which took the fluid from perforations in the casing?

The Witness: That must have been 1934 or 1935. [137]

The Court: Testing behind perforating holes in the casing.

Mr. Foster: What hours does your Honor ordinarily take the afternoon recess?

The Court: We are going to adjourn in a few moments for the day. We will proceed for another 15 minutes.

Mr. Foster: Has your Honor completed his questions?

The Court: Yes.

Q. By Mr. Foster: I want to refer again to the Rembert Patent, 17-M, for identification, and particularly direct your attention to Figure 5 of that patent. It is my understanding, Mr. Johnston, that in order to operate this gun a weight must be dropped down on the central rod 37 against the plate 34, thus releasing the springs of the different guns and permitting them to impinge upon the firing pins 19? A. Yes, sir.

(Testimony of M. O. Johnston)

Q. And that there is no control element as such which extends up to the top of the well? In other words, it is necessary in order to fire the gun to drop a weight down the well around the rod 37 in Figure 5 there.

A. I misunderstood your question then, Mr. Foster. I thought your question was asked me how I would hook the Rembert gun to my testing tool and make a job with it.

Q. Is the understanding I have stated correct as to [138] the operation of the Rembert gun in this Patent 17-M?

A. That is the way the Rembert gun shows it, but to modify it I would have to do something else to it to make it shoot like running the rod up there. I thought that was your question.

The Court: You asked him how the device is described in the Rembert patent.

Mr. Foster: Yes.

The Witness: How it is made to shoot?

Q. By Mr. Foster: Yes.

The Court: Did you understand that?

The Witness: Yes, sir.

The Court: Not how you would tie it on to some tester, but how would you take the gun described in the Rembert patent and make it shoot?

The Witness: By dropping a weight on that rod through the drill pipe.

The Court: Rod 37?

The Witness: 34.

Mr. Foster: It is 34, isn't it, your Honor, in Figure 5? The rod is 37 and the plate is 34.

The Court: Yes.

(Testimony of M. O. Johnston)

Q. By Mr. Foster: The weight would not be dropped through the rod, would it? It would be around the rod? That is, dropped down on plate 34, is that correct? [139]

A. I suppose so. May I explain that I never ran this gun in an oil well. I only experimented on top of the well. Consequently we did not have to add tubing on this gun to fire it. We would load it and put it down and hit the top of this rod with a hammer and fire it.

The Court: Rod 37?

The Witness: Yes, sir.

Mr. Foster: No, it wasn't rod 37. You hit some other rod.

The Witness: No, not rod 37. It is rod 25, I guess.

Mr. Foster: To the left of Figure 5, your Honor.

The Court: Yes.

Q. By Mr. Foster: You were operating it in that manner because you were right at the surface of the ground? A. Yes, sir; that is correct.

Q. Now, directing your attention back to these prior or these Johnston tester patents you have referred to, for example, 17-O. How would you modify the tester apparatus there above the gun to permit you to drop the weight down to fire the gun?

A. This equalizing valve, Mr. Foster, is below the main valve.

Q. But it is above the perforator, isn't it? Isn't all the testing apparatus of Exhibit 17-O, if you put it in a combined tool, isn't it above the gun perforator? [140]

A. Yes, it would be above.

Q. Then how— A. The packer.

(Testimony of M. O. Johnston)

Q. Yes. Then how would we drop a weight down around the tubing and this sample tester in order to actuate this Rembert gun?

A. You couldn't do it if you left a small portion of that, as he intended to shoot it without a testing tool. You couldn't do it. But if I was improvising to run that with a testing tool I would extend that rod up through this, up through the packer, up through the equalizing valve, up through the circulating valve, up into the tubing which is closed off by the atmospheric pressure and drop the rod on top of it above the tester.

Q. That is the rod 25, the rod 25, the control rod 25 of Rembert?

A. Yes, sir; I have never done that but if I was asked to do it that would be the way I would do it.

Q. You would run it up through this valve 25, would you?

A. Yes, sir.

Q. And you would run it up through the valve 38?

A. Yes, sir.

Q. And you would run it up through the element having the opening 37? [141]

A. Yes, sir.

The Court: You are referring to Exhibit 17-O for identification?

Mr. Foster: All with respect to 17-O for identification, yes. All with respect to 17-O for identification, these numerals we have been calling out.

The Witness: Yes, sir.

Q. By Mr. Foster: And then you would run it on up to the surface of the ground eight or ten thousand feet to control the rods?

Mr. Mellin: I beg your pardon, just a moment.

(Testimony of M. O. Johnston)

The Witness: No, sir. I would stop it right here, just above your main valve.

Q. By Mr. Foster: And then how would you actuate it?

A. Drop a rod in on it and shove it down like you would hit it with a hammer on top. At the first blush that is what I would do. You asked me about it today. I never figured on putting it on there but just offhand that is what I would do.

Q. That would provide, you feel, a unitary tester and gun perforator which would have all the advantages and utility of your combined tool subject to the suit here, is that correct?

A. Yes, sir; I could put my tester on this, fire those dynamite caps by a straight rod, drop it inside my drill pipe. [142] It would fire the same as it does by shooting it hydrostatically.

Q. Now, I want you to refer to a date of December 1930 and have you identified from the Exhibits here the sample tester which you were then using? Was that Exhibit 17-O for identification?

A. I will have to confine that. It may have been a month or two later, but as to my memory it was December 1930 that I experimented with this valve.

Q. I want December 1932, Mr. Johnston.

A. 1932?

Q. Yes. What was the sample you were then using?

A. December 1932? You can probably find it better than I can. Yes, I started using this structure in 1932—this tester in 1932 or the first part of 1933.

The Court: Which tester is that?

Mr. Mellin: 17-U.

(Testimony of M. O. Johnston)

Mr. Foster: That is 2,073,107.

The Court: Which is another way of saying you were using then the tester which you are using now?

The Witness: Yes, sir; that is correct, sir.

Q. By Mr. Foster: And what was the best gun perforator known to you in December 1933?

A. It was the Rembert gun. The Rembert gun was the best known. [143]

Q. And that was the best gun known to you?

A. Known to me at that time, yes, sir.

Q. Now, you testified that you performed development work on the Johnston Gun Perforator from 1941 to 1943 and that your expense was quite a bit. Approximately how much was spent by your company in developing a gun perforator in that period?

A. Fifteen or twenty thousand dollars, I would imagine. I don't know exactly.

Q. And did it extend for approximately the full two years or three years, 1941, 42 and 43?

A. Yes, sir.

Q. When did you first see the three Collins patents which have been identified here?

The Court: Exhibit 11.

Mr. Foster: Exhibit 11, yes.

A. The patents, Mr. Foster?

Q. By Mr. Foster: Yes.

A. It was probably in 1940 or 1941. I am not sure.

Q. And you saw them, at any rate, all three of the Collins patents, Exhibit 11, before you commenced develop-

(Testimony of M. O. Johnston)

ment work upon this electrically fired gun perforator, didn't you?

A. Yes, sir; I saw some of them. I can't say all three of them or not. I am not sure. I was satisfied with [144] the patent.

Q. I do not mean to trick you but I notice here that they did not issue two of them—two of them were issued in 1942 and one of them issued in 1943, but you say the applications for those patents at any rate before you commenced the development work you have referred to, didn't you?

A. I saw something, Mr. Foster, that convinced me that the patents were alright and I signed a contract with them.

Q. Then after the patents were issued you continued to completion of this development work and continued your license with respect to the electrical gun, is that right?

A. Yes, sir. [145]

Mr. Mellin: I think counsel is putting words into the witness' mouth.

Q. By Mr. Foster: You continued your development work on an electrically firing gun after the Collins patents issued and after you had taken your license under them, as I understand it?

A. After I had taken the license under them.

Q. Is your present gun in the tool, the unitary tool here complained of, electrically firing?

A. It is not electrically fired, no, sir.

The Court: You mean the gun as now used?

Mr. Foster: The gun as now used.

The Witness: No, sir, it is not.

The Court: It is mechanically fired?

(Testimony of M. O. Johnston)

The Witness: Mechanically fired.

Q. By Mr. Foster: Have you ever used commercially an electrically firing gun perforator?

A. No, sir, I have not.

Q. Can you give us the date when you commenced using commercially your unitary combined tool of a tester and perforator?

A. Commercially?

Q. Yes. A. In 1943, I believe.

Q. Can you tell us when in 1943? [146]

A. No, sir, I cannot.

Q. When you operate a gun alone, do you run the gun into and out of the casing on tubing?

A. Tubing or drill pipe we run into the casing, but not out of it if we are going to shoot the casing.

Q. When you operate the gun perforator alone without a tester, it is attached to tubing instead of a cable, is it?

A. Yes, sir.

Q. Wouldn't it be much quicker to run it on cable?

A. Yes, sir.

Q. But your gun is not operable on cable, as I understand it? Is that the reason?

A. No, sir, we have never tried it that way.

Q. You don't know whether you could operate your gun perforator if it were run in on cable or not?

A. I am pretty sure it could be rigged up to operate on electrical cable.

Q. Why don't you run it in on cable, if it is faster to run it in on cable than on tubing?

A. I may do that later on.

Q. Can you give us any reason why you have not done so before?

A. No, sir.

(Testimony of M. O. Johnston)

Q. When did you first see a gun perforator that was run in on tubing or drill pipe instead of on cable? [147]

A. Well, the Rembert gun was supposed to run on tubing and drill pipe. That was the way it was fitted.

Q. Wasn't it run in on solid rod, in accordance with the patent?

A. I don't know about the patent. I didn't understand it that way, but it was run on tubing.

Q. It was not necessary to run it on tubing to fire the Rembert gun, was it? It could be run on cable and fired?

A. I think you could run it on just a plain cable, yes.

Q. Why then was it run in on tubing, a more time-consuming operation, instead of on cable?

A. I don't know. I never run it either way.

Q. Did you see the Rembert tool run in on tubing or drill pipe? A. No, sir.

Q. You didn't see it run in by anyone at all?

A. No, sir.

Q. When did you first see a gun perforator that was run into a hole on cable?

A. I don't know. It was probably 1934 or '35.

Q. And who performed that operation?

A. I don't recall whether it was Lane and Wells or—I think it was the Lane and Wells Company. I am pretty sure it was.

Q. Isn't it a fact that commencing in 1934 and for [148] years thereafter you were very familiar with the operations of gun perforators by the Lane-Wells Company? A. Yes, sir, I understood how it worked.

(Testimony of M. O. Johnston)

Q. And have those perforators always been run in in on cable, or were they sometimes run in on tubing or drill pipe?

A. To my knowledge, only on cable. I don't know.

Q. When did you first see a gun perforator which was run into a well on tubing or drill pipe?

A. In 1934 or 1935. It may have been earlier. I am not quite sure of that, Mr. Foster.

Q. I perhaps have misunderstood you, Mr. Johnson. I understood you to say it was in 1934 or 1935 that you first saw a gun perforator run into a well on cable. Did you at the same time see a gun perforator run into a well on tubing, a tubing string or drill pipe?

A. No, sir.

Q. When did you first see a gun perforator run into a well on a tubing string or drill pipe?

A. In 1941 or '42, I imagine.

Q. Who performed that operation?

A. Probably we did.

Q. Is there any advantage in running a gun perforator into a well on tubing or drill pipe over running it in on cable? A. No.

The Court: We will suspend at this time until tomorrow [149] morning at 10:00 o'clock. The trial will be recessed until tomorrow morning at 10:00 o'clock.

* * * * *

Mr. Mellin: If your Honor please, I believe there is one correction that the witness would like to make in his testimony yesterday. May we do it now?

The Court: Yes, I think it would be well.

(Testimony of M. O. Johnston)

Mr. Mellin: Do you have that, Mr. Johnston? You told me this morning there was a correction you wanted to make.

The Witness: Yes, sir.

Mr. Mellin: Will you tell us what it is, please?

The Court: You are showing the witness the transcript of yesterday's proceedings? [153]

Mr. Mellin: Yes, your Honor. And what page is it at, Mr. Johnston?

The Witness: 137.

Mr. Mellin: Where is the correction and what is it, please?

The Witness: It is in line 15.

Mr. Mellin: Will you read it as it is.

The Witness: "In December, your Honor, there wasn't—at that time we tested just the bottom of the casing instead of shooting holes in them for this water shut-off at the shoe of the lower-most joint of this casing. They would drill out below the shoe and we tested the lower part of that.

"The Court: You were still using the test of the fluid from the rate hole, weren't you?

"The Witness: No, sir.

"The Court: When did you begin using a tester which took the fluid from perforations in the casing?

"The Witness: That must have been 1934 or 1935."

Mr. Mellin: What is the correction you wish to make?

The Witness: The correction I wish to make—I had in mind at the line gun perforators and I failed to bring in [154] the mechanical perforators that had been run for years and years and that we had tested behind me-

(Testimony of M. O. Johnston)

chanical perforators ever since we had been running casing tests or casing packers in conjunction with the formation tester.

The Court: How long had that been?

The Witness: From 1930.

The Court: In other words, from the time you began testing up until about 1930 the only test you had was to drill a rat hole beyond the point where the casing extended, and take the fluid from the rat hole?

The Witness: That is correct, sir. There has been—there is another type of packer that wasn't shown which is a straight hole packer that we did test—we did test with a straight hole packer at times even.

The Court: Even that one took the fluid from the bottom of the well?

The Witness: That is correct, sir.

The Court: Now, in 1930 you began to perforate the casing either mechanically or I suppose it was mechanically at first, wasn't it?

The Witness: Yes, sir. [155]

The Court: In 1930 or around that time you began perforating the casing and taking the sample so the fluid came through the perforations in the casing?

The Witness: Yes, sir. The mechanical perforator, your Honor, had been used for years back, but I had not been testing inside of the casing until 1930, when I put a casing packer on the bottom of the tester. That was in the fall of 1930, and from that time on, why, I tested behind mechanical perforators. But mechanical perforators had been known and used for years.

The Court: Then when was the first time you began to use the gun to perforate?

(Testimony of M. O. Johnston)

The Witness: The gun to perforate the casing?

The Court: Yes.

The Witness: The first time I began that was in 1943, but the Lane and Wells Company was shooting here in California from '34, or it may have been the latter part of '33. I am not positive what date, or just when they did start shooting.

The Court: Does that cover the corrections you desire to make?

Mr. Mellin: Your Honor, I have a little additional correction, and you have a second correction, Mr. Johnston, on what page?

The Witness: There is a second correction on page 143.

Mr. Mellin: Will you tell us what that is, please? [156]

The Witness: Starting at line 19 on page 143:

"The Court: Which is another way of saying you were using then the tester which you are using now?"

"The Witness: Yes, sir; that is correct, sir.

"Q. By Mr. Foster: And what was the best gun perforator know to you in December 1933?"

"A. It was the Rembert gun. The Rembert gun was the best known."

Mr. Mellin: Do you wish to correct that?

The Witness: I wish to correct that.

Mr. Mellin: In what manner?

The Witness: That I had lost sight of the fact that I had a gun, an application in the Patent Office on an electrical shooting line gun.

The Court: At what time?

The Witness: I applied for that in 1932.

(Testimony of M. O. Johnston)

Mr. Mellin: And that application, the one you refer to, did that result in Patent Exhibit 17-T, No. 2,048,451, applied for December 19, 1932?

The Witness: Yes, sir, that is correct.

Mr. Mellin: Is that all the corrections you wish to make, Mr. Johnston?

The Witness: Yes, sir. [157]

* * * * *

Q. By Mr. Foster: This gun patent, Mr. Johnston, 17-T, to which you referred in correcting page 143 of the transcript, had you prior to December 1933 used that perforator in a well hole?

A. No, sir, I had not.

Q. So that as of December 1933 the only gun perforator which you had ever heard of being operated to perforate casing in a hole was the Rembert gun perforator, is that true?

A. No, sir. There is one other, a Romanian patent. I had forgotten about it. Or a Belgium patent that I had seen in a publication sometime in 1930.

Q. You had never seen it operate, however?

A. No, sir, I had not.

Q. Now, with respect to these mechanical perforators which you say you used your tester with—

Mr. Mellin: Just a moment.

Mr. Foster: I will withdraw the question, if you please.

Q. By Mr. Foster: You stated in correcting or making the other correction in the record that you had used your testing apparatus to make a formation test through perforators in casing which had been made by mechanical perforator?

A. Yes, sir.

(Testimony of M. O. Johnston)

Q. Those mechanical perforators would not perforate through the cement around the casing, would they? [161]

A. They did; yes, sir.

Q. As well as the casing? A. Yes, sir.

Q. But in no event that you know of was the mechanical perforator used as a part of a unitary tool with a formation tester?

A. No, sir, not that I know of.

Q. You stated on your direct examination that using the combined unitary tool, comprising or including the tester and perforator, there would be saved about three hours of time over the use of the tester and perforator separately. Now, if we assume a well of about 10,000 feet depth how long would it take to run down a perforator into the well, to the bottom of the well and make the perforations and withdraw the perforator if the perforator is used alone without a tester combined with it?

A. That would depend somewhat on the weight of the mud and the condition of the hole and what—well, the condition of the casing, and how fast they would run it. But if the hole was open and it had free—it could fall freely I would imagine 35 or 40 minutes to the bottom. Maybe not that much. Maybe less.

Q. 35 or 40 minutes to get the perforator into the well?

A. Yes, sir; and that would include doing the shooting. [162]

Q. And how long to bring the perforator out of the well?

A. That would also depend on how fast you withdraw it, how many sections you were running on your line and that would determine how fast you would withdraw it.

(Testimony of M. O. Johnston)

Q. Well, can you give us an estimate of the time that would be required to withdraw it?

A. No, I couldn't. I would imagine a minimum would be 15 minutes or upwards.

Q. Now, you say dependent upon how fast you withdrew it. Couldn't we withdraw it very rapidly, in two or three minutes perhaps?

A. Oh, I don't know just how your gun mechanism works on your drum—just how fast you can withdraw it.

Q. Well, is there any factor of safety to the well that controls how rapidly the gun is withdrawn?

A. Yes, I would think so.

Q. Would you explain that to me, please?

A. Well, again it would be determined by the weight of your fluid on the inside. If you perforated a gas sand that was attempting to blow out, you hadn't weighted your mud properly or an unknown sand, if it is attempting to blow out, I imagine you would pull the gun as fast as you could.

Q. Well, do I understand by that if you have a gas formation there, if you withdraw the perforator too rapidly there is a tendency for the well to blow out. Is that it? [163]

A. Well, that too would depend on the size gun you are running, how large the casing is, how closely it fitted. If you would run it too fast and if you would pull some of the mud with the additional pressure below it you may—this is all guess work on my part because, as I stated, I have never run the line gun.

Q. But your knowledge of oil wells, from your many years experience in the fields, indicate to you that if you—that that is a factor that if you withdraw the perforator

(Testimony of M. O. Johnston)

too rapidly you could incur a risk of the well blowing out under certain circumstances, is that true?

A. That would be according to whether it was a known sand or unknown sand. A great many factors should be taken into consideration.

Q. With that qualification the answer to my question is yes, is that correct? A. I suppose so.

Q. Now, how long does it take to run the sample tester into this well of about 10,000 feet?

A. That depends on many factors, too—the shape of your rig, the fastness of your crew. But I would say a minimum of a couple of hours for 10,000 feet, or maybe an hour and a half. These fast rigs that have been put out recently I haven't had much experience on them, if any.

Q. How long does it require to take the sample and [164] withdraw that testing tool when you are using it without a gun as a part of the unitary tool?

A. Without a gun?

Q. Yes.

A. Practically the same amount.

Q. How long do you leave the tester at the bottom of the well after you have secured the sample before you commence withdrawing it?

A. After we have secured the sample?

Q. Yes. Do you withdraw the tester immediately after you have secured the sample?

A. In most cases, yes, sir.

Q. Now, how long in this 10,000-foot well, assuming the same factors which you have mentioned in your description of the time required for the separate tools, how long would be required with the unitary tool, which you are now using, to lower into the well, perforate the

(Testimony of M. O. Johnston)

casing, secure a sample, and withdraw the unitary tool to the surface of the ground?

A. That too would be determined by the explanation I made before—the fastness of the crew, the fastness of the rig, the size of the rig. But I will say a minimum of two hours and a half or three hours.

Q. In your direct examination you referred to the use by your companies of the Johnston Perforator Gun for perforat- [165] ing casing, this gun being not assembled in the unitary tool with the tester. Is that gun the same as the perforating gun which you use in your combined tool?

A. I will have to have that question over again, Mr. Foster.

The Court: Read the question.

(Question read.)

A. Yes, sir.

Q. By Mr. Foster: Also you have referred to the Johnston Tester as a Texas Company and the Johnston Oil Field Service Corporation as a Texas Company. Are they the same company?

A. Yes, they are the same company.

Q. With respect to this license agreement which has been marked Plaintiff's Exhibit 7 and which relates to the Collins patents, does the Texas Company, the Johnston Oil Field Service Corporation, pay royalties under that contract?

A. Yes, sir, they do.

Q. And does it pay royalties upon its use of gun perforators in the tool, the unitary tool combined with the tester?

A. Yes, sir.

(Testimony of M. O. Johnston)

Q. And does it pay royalties under Exhibit 7 upon gun perforators which it uses alone, uncombined with the tester? A. Yes, sir.

Q. When the Texas company—and by Texas company I [166] will mean the Johnston Oil Field Service Corporation of which you are president—when did it first use the unitary combined tool, that is including the tester and the gun perforator?

A. 1943, I believe, commercially.

Q. And in what area has it used it?

A. Over Texas, Louisiana, Arkansas and Mississippi and I believe in Oklahoma.

Q. Are the combined tools, including the tester and the gun perforator, used by the Texas company identically with such combined tools used by your company in California? A. Yes, sir.

Q. Now, with respect to the Rembert gun that you tested and the Rembert gun subject to the patent included in the book marked Plaintiff's Exhibit 17 for identification, I understood you to say that you believed it was deficient in that the mud pressure would push the bullet back into the cartridge, is that correct?

A. Yes, sir; under a high head or a head that would overcome that.

Q. Now, in the gun perforator itself which you are now employing in your combined tool, how do you prevent that? A. I have a sealing means.

Q. That sealing means is—is that between the firing chamber and the bullet? [167]

A. The sealing means is on the outside of the gun body ahead of the bullet.

(Testimony of M. O. Johnston)

Q. It is between the exterior of the tool where the rotary mud is and the bullet and the cartridge?

A. Yes, sir.

Q. And that is a rupturable sealing disc, isn't it, that can be broken when the pressure builds up in the firing chamber around the bullet?

A. It can be pushed out or ruptured, I don't know which it does.

Q. It is made of a material such that is fragile or breakable and when the gases from the explosion of the powder in the firing chamber occur it pushes the bullet out through it, that is true, isn't it?

A. No, sir; that is not true. It is made of steel.

Q. It is pierced by the bullet, isn't it?

A. It is either pierced by the bullet or pushed out.

Q. The steel disc is sealed then to enclose the firing chamber and the bullet and to protect it against hydrostatic pressures which are encountered in columns of mud ten or twelve thousand feet deep, is that true?

A. That is correct; yes, sir.

Q. And the disc will not break or give under those pressures and will not admit rotary mud into the firing chamber or into contact with the bullet or the cartridge? [168]

A. Yes, that is correct.

Q. So that a pressure equal to a hydrostatic column of ten or twelve thousand feet of mud is necessary in order to break or remove the steel disc when the cartridge explodes in the firing chamber?

A. I don't understand that question, Mr. Foster.

Q. I mean—the question is simply this: In order to break that disc or remove it so that the bullet can get

(Testimony of M. O. Johnston)

out of the firing chamber when the cartridge is exploded, it is necessary for the pressure to build up in that firing chamber so that it exceeds the hydrostatic pressure of a column of mud ten or twelve thousand feet deep?

A. I don't think that is my theory of it. To answer that question I could explain what I believe—the way, I believe the gun to work.

Q. With respect to that disc?

A. Yes, with respect to the disc.

Q. Please do so. [169]

* * * * *

Q. When did you first learn of that Mims patent?

A. Sometime in 1932.

Q. Is it the perforator of this Mims patent which you combined with the tester to provide the combined tool, the [176] subject of the suit here?

A. I don't understand that. I don't know how to answer that. It is not clear.

Q. Well, in designing or making your combined tool, that is, the perforator and tester which is the subject of the suit here, did you utilize the perforator of this Mims patent which is Exhibit 17-G, for identification?

A. Did I use the Mims gun?

Q. Yes.

A. No, I didn't use the Mims gun.

Q. Did you ever use the perforator of this Mims patent?

Mr. Mellin: Your Honor please, I think he ought to explain to the witness or make the question clear as to whether he is using a gun or a method of firing the gun, the claim to the Mims patent, or the precise Mims gun disclosed.

(Testimony of M. O. Johnston)

Mr. Foster: I will clarify it.

Q. By Mr. Foster: Did you ever use a gun perforator such as illustrated and described in the Mims patent?

A. No, I never used the Mims gun.

Q. Is is your opinion that the gun perforator illustrated and described in the Mims patent is a practical tool?

A. I don't know. I haven't studied that Mims patent from that standpoint. I understand that Mims patent, or was told that the Mims patent had the method claim of shooting [177] bullets into an oil well in any way.

Q. You don't know whether the perforator there illustrated or described is operative or practical or not?

A. I don't know.

Q. What must be done, in your opinion, to combine the gun perforator illustrated and described in the Mims patent with a tester to provide a unitary tool, such as your device, the subject of the suit here? Would you like a copy of that before you?

A. Yes, it can be done.

Q. Well, what changes would have to be made in the perforator illustrated and described in Plaintiff's Exhibit 17-G to provide the combined tool?

A. The way it is shown in this patent drawing?

Q. Yes.

A. We would have to put a hook on the bottom of our perforated anchor, below the packer, thread the electrical cable up through the packer and up through the circulating valve on our tool on up into the drill pipe and then fix some kind of a conductor where you could run a line down and fire it off.

Q. Have you completed your answer?

A. I have completed it, yes, sir.

(Testimony of M. O. Johnston)

Q. You wouldn't run the electric conductor to shoot the gun up through the drill pipe or tubing to the surface of the [178] ground, and would stop it short of there; is that your answer?

A. That would be done, yes, sir.

Q. You think it a practical operation to thread an electric conductor through 10,000 feet of drill pipe or tubing as you are assembling it and lowering it into the well?

A. It can be done, but it would not be practical to do it.

Q. It is for that reason that you would stop it somewhere in or above the tester; is that right?

A. Yes, sir, because that is an easier way to do it.

Q. Now, when you were speaking of combining it with your tester, you had reference to a tester such as is illustrated and described in the patent marked Plaintiff's Exhibit 17-Y, for identification; is that correct?

A. That is a gun. That is not a tester.

Q. Oh, I am sorry. You had in mind a tester such as illustrated and described in your patent marked Plaintiff's Exhibit 17-U, for identification; is that correct?

A. Yes, sir.

Q. And that conductor I imagine could be stopped so that it was energized by contact, for example, with the lower end of the valve cage 35. Would that be a good way to do it?

A. I don't know how you would ground out or get through it. You are getting a little—my electrical knowledge [179] doesn't teach me that. I know you can take two wires leading from it, that you can do that. My electrical knowledge is limited on cables, but I suppose

(Testimony of M. O. Johnston)

that there could be an insulated conductor and this be of some material, and this be Bakelite or a non-conductor, and you can do that. I imagine an electrical engineer could figure that out.

Q. So that the record is clear, Mr. Johnston, I don't mean to go beyond your knowledge and experience, but so the record may be clear, you were pointing to the element indicated by the numeral 35 in Fig. 1 of Exhibit 17-U as being the locality where the circuit might be closed by the lowering of that valve cage in order to energize the gun; is that correct?

A. That's correct, yes, sir.

Q. Now, with respect to the Collins patents, the three Collins patents which were the subject of your license agreement, and which, for identification, are Plaintiff's Exhibit 11. You had before you, when you commenced your experimental and development work upon the perforator, you had before you the full information that is disclosed in these patents, did you not?

A. I don't know whether all of those patents or not.

Q. But I mean the subject-matter of them had been disclosed to you by Collins, so that you were acquainted with the material which is set forth in those patents before you [180] commenced your experimental work?

A. Yes, sir.

Q. Can you tell us why, with those disclosures before you, it took you three years and fifteen or twenty thousand dollars in order to develop a satisfactory gun?

A. One reason was the steel, the steel situation, that we couldn't get the proper steel that we wanted, and we had to do a lot of experimenting on different steels to get that which would hold up. That was one of the reasons.

(Testimony of M. O. Johnston)

Q. Will you give all of the reasons?

A. Well, that was the greatest reason, and the war was on and you couldn't devote all your time or attention to it.

Q. I hand you a copy of Plaintiff's Exhibit 11, containing the three Collins patents. Which of the three Collins patents illustrates and describes the gun perforator which you are using commercially in your combined tool?

The Court: He has testified that one of them does?

Mr. Foster: Well, I understood him to testify that the Collins patents illustrated and described the perforator. I will withdraw the question and lay a foundation if that is not the court's recollection.

The Court: Your question is: which, if any?

Mr. Foster: Yes, which, if any.

The Witness: The September 15, 1942—

Q. By Mr. Foster: That is patent No. 2,295,634? [181]

A. Yes, sir. It describes the bullet and the powder chamber.

Q. Does it describe the gun perforator which you use in your combined tool?

A. Yes, sir, it is practically the same.

Q. And what about the second Collins patent, 2,305,139? A. Yes, sir.

Q. Does it?

A. It describes it too, from the pictures of it.

Q. And Collins patent No. 2,307,360?

A. That is substantially the way that the gun is. I can't—it looks to me that that describes it.

Q. Now, during this three years that you did this experimental work—

(Testimony of M. O. Johnston)

Mr. Mellin: Your Honor please, it seems to me he testified it was from '41 to '43. That is not three years.

Mr. Foster: I understood him to testify earlier that his experimental work had continued for practically the three years, 1941, '42 and '43.

Q. By Mr. Foster: Is that correct?

A. Yes, sir, I think that's correct.

Q. Now, during your development work on the gun perforator which you say is described in these Collins patents, what changes did you make, giving them to us in chronological order, over the perforators disclosed in these patents in [182] order to reach the perforator which you now use?

A. This first one, of September 15, 1942, No. 2,295,634, from the drawing shows a pipe or tubing slipped over the gun body, and sealed off, which is for the purpose of sealing all the gun chambers from the hydrostatic head or from any fluid. We don't use that.

Q. You are referring to the tubing or pipe indicated by the letter C in Fig. 1 of that patent; is that correct?

A. In Figure 1, letter C, yes, sir. No, sir, that letter C is the casing. I think that represents the casing of the well. I am not sure. Yes, sir, that is the letter C.

Q. Would it be the pipe or tubing 56, then, in Fig. 1?

A. Yes, sir, that is correct.

The Court: In other words, as I understand it, this Collins patent No. 2,295,634 provided for a sealing means or in the nature of a jacket that sealed all the chambers?

The Witness: That is correct, sir.

The Court: And you changed it to individual steel disks to seal individual chambers; is that right?

The Witness: Yes, sir.

(Testimony of M. O. Johnston)

Q. By Mr. Foster: Did you experiment with a perforator having that sealed chamber, as illustrated in that patent, before you decided you would not use it?

A. No, sir, I didn't have to experiment with that. That was being used the first time I saw the Collins gun. [183] I think that was in, oh, 1938 or '39, and they were using that sealing means at the time.

Q. Why didn't you use it?

A. Well, the tubing that you sealed it with I thought probably cut down the penetration of the bullet some into the casing. Another thing, it was expensive. You had to buy Shelby tubing, a tubing that was made for it, and it cost quite a bit, where you could seal it individually with sealing disks, and that brought the expense down.

Q. Now, will you tell us in a general way what changes you made, what models you made, what departures you made from the perforators illustrated and described in the Collins patents over the three years and that involved the expenditure of this fifteen to twenty thousand dollars in reaching your present gun perforator, starting at the beginning of the three-year period? What models or experiments did you do, first? What changes did you make, next? Just tell us that story.

A. Well, at first we removed the jacket over the gun powder, and we went into sealing—trying and succeeding in sealing the mouth of the gun barrels, and where there was this crudeness, probably a refinement in the firing head. We had to do that. It was a slow thing, putting that small hole through the center of the gun body. It is a 1/16 inch hole. That is marked 13.

Q. In Fig. 1 of patent 2,295,634? [184]

A. Yes, sir.

(Testimony of M. O. Johnston)

Q. Would you continue with your story now of the development work?

A. We spent quite a bit in boring that hole and in longer sections. In a one-foot section, why, it was relatively easy to get it in, but we wanted to go into longer sections, in five-foot sections, so we spent a great deal of time and the waste of a lot of material in running off that small hole before we were satisfied that we could get it in straight, and we do that today. Sometimes we run those chambers, and most of this work in refinement was going on in Texas, and I was back and forth. Without the invoices and the time cards of the machinists, and so on, and so forth, I couldn't give you all of it. It is just roughly, and I think that is about all I am qualified to say on it. Some of the steels that we used would stretch, the barrels would get larger, or we were getting a harder steel and that steel would blow up because we could not get the type of steel at that time that we wanted. It wasn't available. [185]

Mr. Foster: Does your Honor want to recess at this time?

The Court: No, we will proceed.

You were attempting to find a substitute for the steel you wanted, is that it?

The Witness: Yes, sir; we were trying to get one that would hold up over some reasonable period. Some of the steel would stretch with one shot and you have to throw that section away and it was very expensive to do that.

Q. By Mr. Foster: Now, directing your attention to the testers which you knew of prior to December 1933, did you know of any testers for oil wells which included

(Testimony of M. O. Johnston)

a valve for retaining the sample in the testing device so that mud would not enter past the valve into the testing device?

A. I will have to have that question over.

The Court: Please read the question.

(Question read.)

The Witness: Yes, sir.

Q. By Mr. Foster: And did you know of any such valve which was operated automatically or in some manner not from the surface of the ground?

A. Yes, sir; I know of one valve that—however, not to retain a sample that could be operated from the surface of the ground.

Q. Well, I meant a valve that would retain the sample [186] in the tester and would not permit the rotary mud to pass beyond it into the tester with the sample. You knew of such a valve prior to December 1933 in a tester, didn't you, that would lock the sample in the tester against the rotary mud?

A. Yes, sir. I knew of valves that would not let the rotary mud in prior to 1933; yes, sir.

Q. Now, did you know of such a valve prior to such date which was not operated from the surface of the ground?

A. No, sir; I don't believe I do.

Q. You do not recall any?

A. I do not recall any.

Q. At this time? A. No, sir.

Mr. Foster: That concludes my cross examination.

The Court: Mr. Mellin.

(Testimony of M. O. Johnston)

Redirect Examination

By Mr. Mellin:

Q. Mr. Johnston, in correcting your testimony this morning as to the use of casing packers in connection with testers, you testified, I believe, that the first one that you employed was in December of 1930?

A. Yes; that was the first casing packer that I used that was perfected for a testing tool.

Q. I hand you what appears to be a part of the record of the Johnston Formation Testing Corporation, Limited, and [187] signed by M. O. Johnston, and ask you what that is.

A. That is one of our test tickets describing a well that I ran on the Ohio Oil Company, Well No. 4 at Venice, with 8-5/8 casing packer on December 28th.

Q. What year?

A. 1930, but I failed to put the 30 on the ticket.

Q. Can you tell by those tickets—are those tickets consecutively numbered?

A. Yes, sir.

Q. Can you tell by the tickets that precede it and follow that date—what is the ticket that precedes it?

A. The preceding ticket is another run on Well No. 8 which is a hook wall packer below the tool, gas and mud. That date is January 1st, or, rather, it is marked first, first, 31.

Q. What ticket number is that?

A. That is Ticket No. 511.

Q. And what is the ticket number that you referred to before?

A. 508.

Q. And what is the ticket number—what is the date of the ticket number ahead of 508?

A. 11-9-30.

(Testimony of M. O. Johnston)

Q. And that indicates what?

A. (No answer.) [188]

Q. November 9th, 1930? A. Yes, sir.

Q. And I notice the ticket No. 511 is signed "M. O. Johnston"? A. Yes, sir.

Q. And is that your signature? A. Yes, sir.

Q. And I notice Ticket 508 is "M. O. Johnston"?

A. Yes, sir.

Q. Is that your signature? A. Yes.

Q. And was the memorandum made on that ticket at the time or approximately the time that the test was made or not?

A. Yes, sir; it was probably made at that time.

Q. What type of packer does that ticket indicate to you? A. (No answer.)

Q. That indicates was run on the tester at that time?

A. The indication is that it was a casing packer.

Q. And is that—do I understand that to mean a packer that would be set in the well casing?

A. Yes, sir.

Q. And does it tell you what—particularly what make packer it is? A. Yes, sir. [189]

Q. What is it?

A. Well flowing through P.O.T. packer and formation tester. That "P.O.T." is the initials Pacific Oil Tool Company or corporation, I don't remember which.

Q. They were located here in Los Angeles?

A. Yes, sir.

Mr. Mellin: The tickets referred to by the witness are offered in evidence.

Mr. Foster: Do you want to offer them all, Mr. Mellin, or the ones he identified?

(Testimony of M. O. Johnston)

Mr. Mellin: I would like to offer the book and refer particularly to those tickets he referred to, as one exhibit.

Mr. Foster: We are agreeable to stipulating in order not to encumber the record, that you offer those identified. I don't see any use of offering them all—the whole book. That is the point of it.

The Court: What are the numbers of the tickets identified?

Mr. Foster: 508, 509 and 511, I think.

Mr. Harris: Also, your Honor, we would reserve an objection because we haven't had an opportunity to examine all the tickets in this book.

The Court: The offer is made of the three tickets?

Mr. Mellin: To which he referred.

The Court: Which are the tickets just stated by Mr. [190] Foster?

Mr. Mellin: Which tickets did you refer to?

The Witness: I referred to No. 506, 508 and 511.

Mr. Mellin: I offer those tickets so identified in evidence as Plaintiff's exhibits next in order.

The Court: They will be received in evidence. What is the next exhibit number, Mr. Clerk?

The Clerk: 12, your Honor.

The Court: Let ticket numbered 506 be marked Exhibit 12-A; ticket number 508 be marked 12-B, and ticket numbered 511 be marked 12-C.

(The tickets referred to were marked as Plaintiff's Exhibits 12-A to 12-C, inclusive, and the same were received in evidence.)

Q. By Mr. Mellin: Now, for how long a period of time have you been familiar with hook wall packers, Mr. Johnston? A. Beg your pardon?

(Testimony of M. O. Johnston)

Q. Over what period of years have you been familiar with hook wall packers?

A. Ever since I started to work in the oil fields.

Q. And how long have you been familiar with the use of slips to engage casing for supporting objects in well casings?

A. The same amount of time.

The Court: How long has that been?

The Witness: About 38 years. [191]

Q. By Mr. Mellin: And for how long have you been familiar with the use of bowed springs for the purpose that you discussed yesterday, for frictionally engaging the wall of a well when a tubing is lowered down?

A. The same length of time.

Q. Now, Mr. Foster asked you with respect to combining the gun of your patent, Exhibit 17-T, with your well tester. I will withdraw that.

You were asked with respect to combining the Mims gun or the gun shown in the Mims patent, No. 1,582,184, Exhibit 17-G, and I show you that patent and ask you whether or not in your opinion the cable for firing that gun, that is, the electrical cable, could be run up through a Johnston tester which you now manufacture and use, without changing the operation of the Johnston tester?

A. Yes, it could.

Q. And Mr. Foster asked you if you would run that cable up the well, up the tubing in which the tester was suspended. As a matter of fact, could or could not that be actually done, up to the well mouth up through the tubing?

A. I suppose it could be.

Q. Would you state whether or not it would be operative if you ran the cable up through the Johnston tester and out through the tubing and up the well alongside of the tubing?

A. Yes, sir. [192]

(Testimony of M. O. Johnston)

Q. And in that fashion the Mims gun would operate as specified, as shown in the patent, would it not?

A. Yes, sir; it would.

Q. And in your opinion would that gun operate in that fashion? A. Yes, sir.

Q. In conjunction with the tester?

A. Yes, sir. [193]

* * * * *

Q. By Mr. Mellin: Now, Mr. Johnston, with respect to packers. Over what period of years have packers been used on open tubing and lowered down into a well bore with the packer set between the tubing and the casing and then a swabbing action brought in or the well brought in through that tubing?

A. That has been a practice on beyond my experience.

Q. So that if it were contended at this time that it was new in 1930 to lower a hole on tubular members into a well and set a packer between that tubular member and the well for the purpose of flowing the well, would you say that within your knowledge that is old or new at the time—was old or new at that time?

A. That was old.

Q. From your practical knowledge?

A. That is old, yes, sir.

Q. Is that the function, the function of a tester such as we have been discussing, which is for the purpose of taking samples?

A. No, sir; that is not the function of a tester.

The Court: You say it is old or was it old at that time?

The Witness: Of setting packers in tubing?

The Court: Yes.

(Testimony of M. O. Johnston)

The Witness: It goes away back. [196]

Q. By Mr. Mellin: Away back? How long?

A. Oh, from the Drake well on up, the setting of packers on tubing and casing, seed bag packers, bean packers, flax seed packers, boot leg packers. That has been in practice for years.

The Court: Since what year, about?

The Witness: From my knowledge of publications I will say 1870.

Q. By Mr. Mellin: And how far back—did you ever witness the flowing in or bringing in of a well through tubing which was lowered down the well bore and then packed off between the tubing and the casing?

A. Yes, many times.

Q. How long ago would you say that you saw that first?

A. The first time that I saw it?

Q. Yes, approximately.

A. Oh, to be sure I would say 30 years ago, 35 years ago.

Q. All right. Now, with respect to drilling wells, Mr. Johnston, they spoke of always testing in a rat hole. Now, will you state whether it is usual or unusual practice to drill a well bore in which you start, say at 20 inches diameter and when you get to the bottom of the well you are down to a bore of say six inches in diameter?

A. That is common practice, yes, sir.

Q. And it steps down progressively from the largest [197] diameter through several or more stages to the smallest diameter? A. Yes, sir.

Q. And with a shoulder, an annular shoulder between the casing as those different bores are cased?

A. That has been the usual practice, yes, sir.

(Testimony of M. O. Johnston)

Q. And will you state whether or not a rat hole packer such as we know it, which is a tapered packer, is capable of being set at the upper end of one of those reduced, one of the ends of the reduced sections of the bore that is in the casing at the junction between the larger and a smaller bore case?

A. It could be, yes, sir.

Q. And will you state whether or not, Mr. Johnston, what we have been terming here the "rat hole" is actually or is not actually a part of the well bore?

A. That is a part of the well bore.

Q. Except that it is of smaller diameter than the one above it? A. Yes, sir.

Q. Now, with respect to making water shut-off tests at the bottom of a casing, Mr. Johnston, will you state whether or not it is always the practice of making such a test to penetrate the casing above the shoe?

A. No, sir; it is not. [198]

Q. What is the other practice?

A. The other practice is to clean out—well, I will explain it this way, that the practice of setting casing above the oil sand or the sand that is to be tested, is usually to set it in shale above the oil sand and that is cemented from the casing, what we call the "casing shoe," which is the extreme bottom of the casing. We put on a heavy shoe to shut off, to hold the casing, to keep it from bending and so on and so forth. We put this heavy shoe on for that purpose, an iron shoe and cement is pumped up around that shoe and then the shoe comes to rest on the shoulder and the cement allowed a certain length of time to harden. And in pumping the cement down, why, they don't pump all the cement out of the casing. They leave

(Testimony of M. O. Johnston)

some within the casing and it is required by the State Mining Bureau of California that, I think the greatest depth that you can clean out that cement, five feet under this casing shoe and then we run down with the casing packer and formation tester attached and we set somewhere in that last joint. At times the operator wants you to run the perforated anchor out of the shoe. Others don't. That is up to the operator.

And then we set this casing packer and make the test on that shoe and if the shoe is leaking, if water is coming around the bottom of that shoe it enters the testing tool and we know it. [199]

We withdraw the testing tool with the sample in it and the State Mining Bureau then gets the bottom sample or maybe on occasions they will want the top, middle or bottom. I have seen the time they would take every stand. A "stand" of pipe consists of, according to the length of the derrick, whether it is 80 foot or 100 foot. Some of the joints are 22 foot. Some of them 20, and I understand now they are up in the 30's. In fact, I think they are.

You break off those stands and as your sample comes out at the bottom, why, you catch it and if it is a very particular test, why, they will have sample jars that they catch every test or every other test in, but then the most particular tests is the bottom of that test, so we remove the tester and remove the packer off the tester and we open up the circulating valve on the bottom and the last part of that test runs into—we have a jar or bucket ready there to catch that. That is the shoe test.

Q. Now, then, shoe tests are made today both by perforation and by taking the sample just below the shoe?

A. That is correct.

(Testimony of M. O. Johnston)

Q. In both instances you set the casing?

A. Yes, sir.

Q. That is set the packer in the casing?

A. Set the packer in the casing, yes, sir.

Q. Will you state whether or not your company or its
[200] predecessor has used casing packers in connection
with the Johnston tester continuously since December
1930?

A. Yes, sir.

Q. And what other types of packers do you still use,
if any?

A. We use the straight-hole packer and the rat hole
packer and the casing packer.

Q. And the type of packer you run depends upon the
conditions you are required to meet in the bore, is that
correct?

A. That is correct.

Q. Now, Mr. Foster asked you whether or not you
knew of a valve for trapping the sample in the tubing
which was not actuated by manipulation from the surface.
Now, I will ask you whether or not the valve in all of the
Johnston testers, from 1927 to date, whether or not all
of the valves in those devices which were used to entrap
the sand in the tubing or above the tool, was a valve
which was operated to close by manipulation of the tubing
at the surface?

A. The valve that is used to entrap the sample, which
is the main valve, is opened and closed by the manipula-
tion of the tubing at the top of the well bore.

Q. And is that closing of the valve aided by means of
a spring?

A. Yes, sir. [201]

(Testimony of M. O. Johnston)

Q. And is that valve opened to admit fluid to the tubing or tools above the valve by manipulation of the tubing string at the surface?

A. Yes, sir; by letting the pressure down on this box car spring, that we have.

Q. And the telescoping of the parts open the valve?

A. Yes, sir.

Q. Has the Johnston company, that is the present plaintiff or its predecessors, at any time used a valve for entrapping the sample which was not operated—opened and closed by manipulation of the tubing at the surface?

A. No, sir; we have not.

Q. In other words, you haven't used any such automatic valve?

A. No, sir.

Q. That was attempted to be described to you by Mr. Foster?

A. No, sir.

Mr. Mellin: That is all.

The Court: Any further questions of Mr. Johnston?

Mr. Foster: Just two, your Honor, I think.

Recross Examination

By Mr. Foster:

Q. On your redirect examination you referred to the possibility of combining the gun perforator of the Mims [202] patent with your present tester and packer, and stated that the electrical conductor wire or cable could be run through the tubing to the surface of the ground. Now, as a practical man, with your experience in the oil fields, you would not think it practical to run 10,000 feet

(Testimony of M. O. Johnston)

of electrical cable through the well tubing or drill string when you had to thread that two miles of wire through each section of the tubing or string as you assembled it and withdraw it as you removed it, would you?

A. Mr. Foster, it certainly would not be a practical thing to do but it could be done.

Q. And it wouldn't be a practical thing, would it? And these oil wells that are 10,000 feet deep, they are usually not straight holes, are they?

A. I don't know. Some of them are. Some of them are not. They are kept relatively straight. I believe that some companies try to keep them within at least two degrees.

Q. Wouldn't you regard it likewise as impractical to run this cable down two miles for the Mims gun beside the tubing or drilling string? You wouldn't do that, would you?

A. Cable down beside?

Q. Yes.

A. I wouldn't do it if there was any other way to do it, I don't think.

Q. You would not regard that as practical, either? [203]

A. I wouldn't regard it as common practice.

Q. You wouldn't? A. No.

Q. And you wouldn't regard it as practical?

A. Practical? We have, I know, in shooting dynamite and trying to loosen up tubing inside of casing,

(Testimony of M. O. Johnston)

we have run shooting lines down beside tubing to shoot that off.

Q. That was an emergency in each case?

A. Yes, sir, that was when we didn't have a cutter that would cut it off so we would do that.

Q. You referred to the fact that it was old or you had seen in December 1930 the use of a packer on tubing in flowing wells.

Mr. Mellin: He said before that.

Mr. Foster: Before December 1930, is that correct?

A. Yes, sir.

Q. By Mr. Foster: And you had observed also hadn't you, that prior to that time the use of a bean at the top of that tubing to hold pressure on the tubing and control the rate of flow of the well fluids into and out of the tubing?

A. We usually placed the bean in what we call the "Christmas Tree". That was a series of valves leading from the tubing out. We would place beans in that—what we called "beans".

Q. And you observed that to be in very common use [204] prior to December 1930?

A. Yes, sir, we used it.

Q. And by that use of the Christmas Tree and the bean you were able to control the rate at which the well fluids entered the tubing at the bottom of the well and

(Testimony of M. O. Johnston)

the rate at which they were discharged from the top of the well? A. We would try to control it.

Q. That was the objective?

A. That was the objective.

Q. Of the beans and Christmas Tree?

A. Yes, sir.

Q. And that objective was achieved in a great many or most cases, was it not?

A. Yes; if it hadn't been we would have abandoned it.

Q. Now, in any of those flowing wells that you observed where they flowed through a tubing set in a packer in a casing, was mud introduced into the tubing in order to hold the well in and prevent the well from flowing out and pushing the well fluids out of the top of the tubing?

A. It was usual practice to run a packer, what we called a production packer that was open up into the tubing and as we let the packer and the tubing into the well the mud fluid in the well would naturally, as we let it down, why it would come into the tubing.

Q. So that that mud in the tubing acted as a cushion to [205] retard the entrance of the well fluids into the bottom of the tubing for passage upwardly therein, didn't it? A. Yes, it did retard it.

Mr. Foster: That is all.

Mr. Mellin: That is all.

The Court: You may step down.

Mr. Mellin: Mr. O'Neill.

FRANK E. O'NEILL,

called as a witness by and on behalf of the plaintiff, having been first duly sworn, was examined and testified as follows:

The Clerk: State your full name.

The Witness: Frank E. O'Neill.

Direct Examination

By Mr. Mellin:

Q. Will you give your full name, age, and residence?

A. Frank E. O'Neill. 54 years old. Residence 4218 Sutro Avenue, Los Angeles.

Q. What is your present profession or occupation?

A. I am a petroleum engineer and I am retained at this time by the Johnston Company to do research work on new devices.

Q. And what has been your formal education, Mr. O'Neill. Strike that.

By the "Johnston Company" do you mean the present [206] plaintiff? A. I do, sir.

Q. That is Johnston Oil Field Service Corporation?

A. Yes, sir. M. O. Johnston.

Q. And what has been your formal education, Mr. O'Neill?

A. I have an A. B. degree from the University of Richmond, in Virginia, and I have a B. S. degree in petroleum engineering from the University of California, at Berkeley, and I attended the Colorado School of Mines in between those times, and for a short period at Cambridge University in England. [207]

Q. What has been your practical experience in the operation of sinking oil wells?

A. From the time that I graduated from the University of California, which was in May, 1920, I went

(Testimony of Frank E. O'Neill)

to the oil fields in Coalinga, California, and later into the Taft area, and later into the Los Angeles Basin area, and I have been actively engaged in the work of—

Q. In what capacity did you go into those fields?

A. In the capacity, in Coalinga as assistant to the resident engineer, that is, the resident petroleum engineer; and in the Taft area I was the resident engineer in the Elk Hills field, and I worked under the district engineer at that time; and I was the resident petroleum engineer in the Los Angeles Basin field.

Q. What companies were you associated with in those instances?

A. In Coalinga it was the Pacific Oil Company and the Fuel Oil Department of the Southern Pacific Railroad Company. They changed the name to the Southern Pacific Oil Company, and in Elk Hills I worked for the Pacific Oil Company there and then I went over to the Pan-American Petroleum Company and Petroleum Securities, the Doheny organizations. In the Los Angeles Basin I worked for the Doheny organizations and then for the Superior Oil Company in the Los Angeles field.

Q. What has been your practical experience in the [208] testing of deep oil wells?

A. Do you refer now to the use of a formation tester, or to testing in general?

Q. Both.

A. Well, as resident engineer with the oil companies it was necessary and a part of our duties to test the shut-off, the water shut-off on the walls and when we first went into the fields we did that by bailing tests or swabbing tests. The testing of wells continued that way while I was with the oil companies. Then in 1933 I went to work with the M. O. Johnston Oil Field Service

(Testimony of Frank E. O'Neill)

Corporation and tested wells by means of the formation tester while I was with them, from 1933 to 1938.

Q. What time in 1933 did you go with them and commence that work? A. In March, 1933.

Q. And it continued and was continuous through to 1938? A. To August, 1938, sir.

Q. During that time will you state whether or not you actually operated testers to remove samples from oil wells with the use of the Johnston tester?

A. Yes, sir, I did.

Q. Approximately how many wells did you actually test yourself, Mr. O'Neill?

A. Oh, I think I tested possibly 40 or 50 wells myself, [209] and I supervised the work on a thousand or more of them.

Q. Now, will you state whether or not you have had any actual mechanical experience in constructing tools of the general character we are talking about, oil well tools?

A. Well, I have had to do with the construction of mechanical tools from the days of my engineering education on through until the present time from time to time.

Q. Will you state whether or not you performed any research work in connection with the use of a fluid stream under high velocity to penetrate casing or cut steel?

A. Yes, sir, I spent several years experimenting with jets of mud fluid directed through nozzles to impinge against metal, to cut the metal.

Q. At that time did you or someone else do the designing of the different tools which you did work with?

A. Oh, I did the designing of my tools.

(Testimony of Frank E. O'Neill)

Q. And was the work of making them done under your direction or not?

A. Under my direction, yes, sir.

Q. In referring to the testing of deep oil wells, and by use of the Johnston tester, generally what type of tests did you have reference to?

A. Well, your tests are generally divided into tests made in casing and tests made in formation. The casing tests comprise a test of shut-off, for the effectiveness of shut-off, [210] and frequently tests for the productivity of formation that has been opened up through the casing by perforating of one means or another.

The Court: By "shut-off" you refer to water shut-off?

The Witness: Yes, sir, the effectiveness of the cement in excluding the water.

Q. By Mr. Mellin: In those types of tests will you state whether or not it is the object of the test to entrap an uncontaminated sample of fluid in the bore and remove it to the surface for recovery?

A. It is, sir.

Q. Then with respect to the Johnston tools which you operated, the object of those tests was not to obtain a flow or a production test?

A. That wasn't the object of it. The test was to determine whether the well—what it would produce, and we would take the test as it came. If it flowed, all right, If it didn't, we took a sample anyway.

Q. What normally is the condition of the well bore at the time a casing water shut-off test is to be made?

A. Well, the well bore at the time a water shut-off test is to be made has casing in the well bore and the well is sometimes full of drilling fluid.

(Testimony of Frank E. O'Neill)

Q. Approximately what is the consistency of that drilling fluid? [211]

A. Well, it varies a great deal. I think an average figure would possibly be 80 pounds per cubic foot as against 64 and a fraction—no, 62 and a fraction for water.

Q. What is the purpose of maintaining the casing of the well bore full of mud, Mr. O'Neill?

A. The purpose is twofold. First, to prevent any possible collapse of the casing or of the walls of the well, for that matter, and, next, to prevent the pressure within the formations in the well being able to blow out and cause a destruction of equipment and loss of the well.

Q. It is the weight of this mud fluid which overcomes the pressure in the formation and holds it back?

A. Yes, sir.

Q. Now, what is the purpose of a water shut-off test in a casing, and why is it necessary?

A. Casing is run into the well for the primary purpose, so far as the water stream is concerned, to exclude from the productive horizons any water that may have been penetrated by the hole above the productive zones, and in order to do that, when the casing is lowered into what would be a reasonably substantially impervious body, preferably a shale below the last water which lies adjacent or near the oil sand, cement is pumped down through the interior of the casing. It goes out of the bottom of the casing and up the outside, between the casing and the walls of the well, and normally [212] there is some cement left in the bottom of the casing. That is permitted to stand until the cement properly sets. At that time the Division of Oil and Gas for the State of California re-

(Testimony of Frank E. O'Neill)

quires that the operator demonstrate the effectiveness of that cement in excluding the waters above the shoe of the casing from having access to the formations below the shoe of the casing. And by the shoe of the casing, I mean the bottom end of the casing.

The Court: And that is before the well is brought in?

The Witness: Yes, sir.

Q. By Mr. Mellin: Briefly, how do you determine the effectiveness of the water shut-off test with a tool such as the Johnston testing tool?

A. There are two ways. First, the cement may be drilled out and will be drilled out to close to the shoe, and if we are going to test the entrance of water around the shoe, between the wall of the hole and the shoe, then the cement would be drilled on out to a distance, and the formation opened up possibly five feet below the shoe. In that instance the Johnston formation tester would be run in with the casing packer on it and set in the shoe joint, and the packer would exclude the hydrostatic head from having access to the test, and the tool opened up, and if there is a leak, the water entering the hole would enter between the wall of the well and the shoe joint and be picked up into the testing tool, [213] if there is any pressure on it at all. If it is dry, what we call a dry test—in other words, if the water is effectively excluded—there would probably be a few feet of mud come up into the tool, due to the pressure of setting the packing down on it, and that would be all.

Now, in the other instance the casing is perforated with bullets above the shoe, and the tester is set above the perforations—the packer is set above the operations and the same operation is performed. If the bullets in penetrating the pipe pass through the cement and the

(Testimony of Frank E. O'Neill)

cement has not been effective in preventing the water from traveling down between the pipe and the walls of the hole, then the water would have access to the pipe beneath the packer through the holes, and again the formation tester would pick up a sample of it.

If the cement has been effective in excluding the water when the tool is opened against the shot holes there would be a little mud taken into the tool, as before, because the packer is pressing down on the mud. There is a little extra pressure on the mud below due to the squeeze of the packer, and you get a few feet of mud fluid, and that would be all. That would be considered a dry test.

The Court: This cement that you pump in through the casing is supposed to be extruded out the bottom end of the casing and to be forced up between the casing and the core of the well? [214]

The Witness: The wall.

The Court: For a number of feet?

The Witness: Yes, sir, sometimes for a great many feet.

The Court: How many would that be, a great many?

The Witness: Well, they try to cement at times back to 1,000 or 1,500 feet up the walls of the well. The cement is pumped out of the bottom of the pipe. In other words, the cement is pumped into the top of the casing, and usually some of the mud fluid is pumped in, and they use the mud fluid to pump the cement into place, and it is pumped out at the bottom through the holes in the bottom of the shoe.

The Court: And forced up around the sides of the casings?

The Witness: Yes, sir.

(Testimony of Frank E. O'Neill)

The Court: And a perforation, say, 15 to 30 feet above the shoe, that would permit water to enter the casing would be considered an unsuccessful cementing job?

The Witness: Yes, sir. Now, we sometimes have difficulty in obtaining a thick enough bed of shale so that we can afford to take a chance and perforate 15 or 30 feet above. We might be above or below and shoot into a water hole that is set above the shale. But normally it is set in a shale formation or in an impervious body, and we like to have 10 or 15 feet, or more, if we can get it.

The Court: The purpose of the test is either to take the fluid from around the point where the shoe is or [215] immediately about it; is that right?

The Witness: Yes, sir. So if anything—in other words, if it will leak down the outside it will probably leak into the perforations, which not often happens.

Q. By Mr. Mellin: Mr. O'Neill, when a perforating gun is run into a well bore which is substantially full of mud and drilling fluid, and the casing is perforated through the cement, if it is cemented, does any fluid enter the well bore through the perforation at that time, with the members of the full hydrostatic head on the perforations?

A. Well, if the proper weight of mud is carried, the formation fluid should not enter because it has to enter against the pressure of the hydrostatic head, and if the hydrostatic head of the fluid is less than the pressure in the formation, the well would blow out.

Q. In other words, the normal condition is, when a casing is perforated before taking the water shut-off test,

(Testimony of Frank E. O'Neill)

that there may be no formation fluid entering into the well bore until the weight of the hydrostatic head is reduced to below the formation pressure?

A. That is correct, sir, until it is reduced to below the formation pressure.

Q. Now, in taking a water shut-off test, Mr. O'Neill, if the drilling fluid or mud in the bore gains entrance to the tubing or sample container in an unknown amount in the [216] test, is the test considered a successful test or a failure?

Mr. Foster: That is objected to as indefinite. Considered by whom?

Mr. Mellin: Well, considered by this witness.

Mr. Foster: And it calls for a conclusion of the witness.

The Court: In his opinion, are you asking?

Mr. Mellin: Yes.

The Court: Overruled.

The Witness: It wouldn't be considered a successful test.

Mr. Foster: I don't think that is responsive to the question. I think the question was as to his opinion.

The Court: Is that your opinion?

The Witness: It is my opinion, sir.

Mr. Foster: I ask his other answer be stricken.

The Court: It may be stricken.

Q. By Mr. Mellin: Will you state why, Mr. O'Neill?

A. Well, if we have taken our test fluid into the test chamber, and while we may have some idea whether we have taken in a lot of it or not by the action of the air leaving the pipe at the surface, we don't know really how much fluid we have in the pipe. Then when we turn an-

(Testimony of Frank E. O'Neill)

other unknown account of fluid into the pipe behind it, you have no measurements to go on. You don't know what you have. [217]

Q. Are you familiar with the construction and operation of the Johnston tester which is now employed by the plaintiff here? A. I am, sir.

Q. Will you state the similarities, if any, or the differences, if any, between the Johnston tester now employed by the plaintiff and that employed by Johnston or the plaintiff in 1933 to 1938, as run by you and as supervised by you?

A. They are substantially the same, sir.

Q. What do you mean by "substantially the same?" Would you state whether or not there are any differences in operation?

A. There are no differences in operation.

Q. Is there any difference in the principle of function of the different parts. A. No, sir.

Q. What were the differences, if there were any?

The Court: You mean, what are the differences?

Mr. Mellin: Yes. Pardon me.

The Witness: Well, you covered the period from 1933 to 1938.

Q. By Mr. Mellin: I mean, is there any difference, Mr. O'Neill, in construction between the tool which you operated in 1933, the Johnston tool, and the Johnston tool of today, the Johnston tester? [218]

A. The main valve mandrel has been machined with splines on it purely as a matter of safety, in case the valve had broken off.

Q. Well, to save time, the differences were minor differences in construction?

A. Yes, minor differences.

Mr. Foster: That is objected to as calling for a conclusion as to what is minor.

The Court: I will permit it, and you may cross-examine him on it, what he means, if you desire.

Q. By Mr. Mellin: Was there any difference at all in the function or mode of operation of the tool?

A. None at all.

Q. Now, you are familiar with the patents which I hand you—

The Court: It is now two minutes to twelve. You are opening up a lengthy subject, I take it?

Mr. Mellin: Yes, your Honor.

The Court: We will suspend at this time until 1:30 this afternoon. You may step down.

The Witness: Thank you.

The Court: We will recess until 1:30 this afternoon.

(Whereupon, at 12:00 o'clock noon, a recess was taken until 1:30 o'clock p. m. of the same day.) [219]

Los Angeles, California

Wednesday, July 16, 1947.

1:30 P. M.

The Court: You may proceed.

Mr. Mellin: If the court please, at this time I would like to make the statement that in the answers to plaintiff's interrogatories, defendant set out in an answer that they would contend that claims 7, 8, 9, 11, 12, 13 and 14 of Letters Patent 2,029,491 only would be alleged to be infringed by or contended to be infringed by them and claims 5, 7—

The Court: By plaintiff you mean? Contend to be infringed by plaintiff?

Mr. Mellin: Yes, and they would be the only claims in issue here either under the complaint and answer and counter complaint and answer. And claims 5, 7, 9, 10, 13, 14, 15 and 18 of Spencer Letters Patent 2,092,337.

I would like to just have the defendant stipulate that that is the only claims they will contend are infringed here so we can confine our testimony to those claims.

Mr. Foster: Your Honor, we answered interrogatories as we were then advised as to the construction and operation of the plaintiff's tool. We haven't heard that yet.

I think the answer should stand to our then state of knowledge of the plaintiff's tool.

The Court: Have you learned any more about it since the trial opened? [220]

Mr. Foster: No, sir. I say that without any mental reservation. We have no intention now of relying on any claims other than those specified. The great probability is that we will not but until we have some sworn testimony as to the nature of the plaintiff's tool—you see the only

thing that we have inquired about is the general arrangement of the tester and the gun and this disc at the cartridge point of exit which we questioned Mr. Johnston about, but as to the details of that construction no evidence is in as to that.

The Court: Weren't you furnished with a drawing and a description of the operation of the tool?

Mr. Foster: Yes.

The Court: After the pre-trial hearing?

Mr. Foster: Yes; that was attached to their interrogatories, but there was no sworn statement that that was the only tool or the tool that—

The Court: Is that the tool you represented?

Mr. Mellin: Precisely.

Mr. Foster: It was on that showing we specified those claims.

The Court: Mr. Mellin, doesn't the plaintiff represent now that that drawing correctly depicts the tool and description of its operation?

Mr. Mellin: And the description attached accurately [221] describes the operation of the tool.

The Court: Upon that statement are you prepared to rest upon your answers to the interrogatories as to the claims in the Lane and Spencer patents on which you rely?

Mr. Foster: If we may have the additional statement of counsel that that is the only combined tool made, used or sold by the defendant within six years prior to the filing of the complaint.

Mr. Mellin: Those are the only tools that we make, use or sell other than—within six years? That would be it, your Honor, the only tool or tools.

Mr. Foster: It is my recollection that Mr. Johnston testified that there had been used and he thought commercially to the extent of his company being paid for it, a tool having a different kind of sealing means with respect to the cartridge. It is that that I had in mind when I made that reservation. I am perfectly willing to say that we will rely as to the device which is illustrated in the drawings attached to the complaint—attached to plaintiff's interrogatories, we will rely upon the claims Mr. Mellin has specified and only those claims, but I do not feel that I should be foreclosed if the evidence later develops that there is a modified form, as, for example, the form to which Mr. Johnston testified this morning, from relying upon other claims or other patents. [222]

Mr. Mellin: In other patents?

Mr. Foster: I said or other patents.

The Court: Do you have a copy of the drawings and a description of the operation of the plaintiff's tool which you expect to offer in evidence?

Mr. Mellin: Yes, your Honor, but I will be willing to do this. I will be willing to go on through this. I will repeat my request after I go through with this witness on the operation of the present Johnston tools.

The Court: Very well.

Mr. Mellin: Mr. O'Neill, will you take the stand?

FRANK E. O'NEILL,

called as a witness by and on behalf of the plaintiff, having been previously duly sworn, resumed the stand and testified further as follows:

Direct Examination (Resumed)

By Mr. Mellin:

Q. Mr. O'Neill, are you able to take patents that are directed to tools in the well drilling art and from their descriptions and drawing understand and explain the construction and operation of the devices therein disclosed?

A. I am, sir.

Q. Now, I hand you a book of patents which is in evidence here as Exhibit 17, and I will ask you if you are familiar—if you have read those patents and are familiar [223] with the construction and operation of the tools disclosed in each of them? A. Yes, sir [224]

Q. Now, will you turn to the Johnston patent, Exhibit 17-U, Johnston patent No. 2,073,107, and tell me if the disclosure of that patent discloses the Johnston tester substantially as it was constructed in 1933, to your knowledge? A. Yes, sir.

Mr. Foster: That is objected to. Just a moment. I move to strike the answer. It is objected to, your Honor, on the grounds that this witness has not been shown to be qualified to answer that question. He has stated only that he is able to read and tell what is disclosed in patents, and his conclusion that he is able to do so I don't think is a sufficient qualification to answer the question.

The Court: The motion is granted. Lay a further foundation as to his qualifications.

Mr. Mellin: Do I understand that in ruling that way it is based on the fact that he is not qualified to read and understand the letters patent? Because if that is the ruling,

(Testimony of Frank E. O'Neill)

I think that is erroneous, because patents are directed to those skilled in the art to which the patents apply and I think Mr. O'Neill has been shown to be skilled in the well-building art.

The Court: He may be skilled in the art, but he may not be skilled in the art of reading and interpreting these patents.

Mr. Mellin: I asked, your Honor, if he was capable. [225]

The Court: Has he studied these patents?

Mr. Mellin: Yes, he has answered that already.

The Court: I didn't understand that he has answered that?

Q. By Mr. Mellin: I will ask you again, Mr. O'Neill, have you read and studied these patents, which I have handed you, in Exhibit 17, which are Exhibits 17-A to 17-W, inclusive? A. Yes, sir.

Q. Do you understand from the drawings and the descriptions of each of those patents how the devices disclosed therein and described in those patents are constructed and operate? A. Yes, sir.

Q. And what they are intended to accomplish?

A. Yes, sir.

Q. Now, will you turn to the Johnston patent, No. 2,073,107, Exhibit 17-U. Do you understand the construction and operation of the device therein disclosed and described? A. Yes, sir.

Q. Will you tell me the differences, if any, and the similarities, if any, between the tester tool there disclosed and the Johnston tester, which you testified you operated commencing in March, 1933? [226]

(Testimony of Frank E. O'Neill)

The Court: Do you want him to tell the similarities?

Mr. Mellin: If any; and the differences, if any. I put that question that way to overcome the objection of being leading, your Honor.

The Witness: The tool is almost identical. I would say identical with the tools that I operated from 1933 on to 1938.

Q. By Mr. Mellin: Would you state whether or not it is identical in function?

A. It is identical in function, definitely.

Q. Will you state whether or not it is identical in purpose or result? A. It is, definitely, sir.

Q. Are there any particular mechanical changes which you note, other than structural changes of certain parts?

A. No, sir.

Q. Now, you have stated that you are familiar with the construction and operation of the Johnston tester which is being used today by the plaintiff. [228]

A. Yes, sir.

Q. Now, do you have with you any charts or models disclosing the well tester which is employed by the plaintiff today, and which you testified is identical with the well tester you operated from March, 1933 to 1938?

A. Yes, sir.

Q. Will you produce them?

This chart which is on the easel, is that the chart to which you referred? A. It is, sir.

Mr. Mellin: May I have the chart marked for identification?

The Court: First you asked this witness to produce some device, did you not?

Mr. Mellin: Yes, your Honor, and a chart.

(Testimony of Frank E. O'Neill)

The Court: The device, I take it, has now been produced?

Mr. Mellin: Yes, your Honor.

The Court: It should be marked, then, first.

Mr. Mellin: May I have that marked for identification as Plaintiff's Exhibit 14?

The Court: Exhibit 14, for identification, will be—will you tell us what it is?

The Witness: It is a model of the Johnston formation tester, sir.

The Court: Now in use? [229]

The Witness: Now in use, yes, sir.

Q. By Mr. Mellin: And the chart, Mr. O'Neill?

A. It is a diagrammatic drawing of the Johnston formation tester now in use, with the valves in the various positions in which they would be found as the test proceeds.

Q. Does it accurately disclose the mode of operation of the Johnston tester, as of today? A. It does, sir.

Mr. Mellin: May I have that marked for identification as Plaintiff's Exhibit 15?

The Court: Is there a 13?

Mr. Mellin: 13—I beg your pardon. May I have the tester marked 13 and the enlarged chart as 14?

The Court: The model of the Johnston tester that is now in use will be marked Plaintiff's Exhibit 13, for identification.

Then is that a single chart there?

Mr. Mellin: Yes, your Honor, it is.

The Court: And the chart on the easel which the witness has referred to will be marked as Plaintiff's Exhibit 14, for identification.

(Testimony of Frank E. O'Neill)

(The model and the chart referred to were marked Plaintiff's Exhibits 13 and 14, respectively, for identification.)

Q. By Mr. Mellin: Now, Mr. O'Neill, from the chart [230] and from the model will you please describe to us, as briefly as you can, the construction and operation of the Johnston tester and its mode of operation in performing a test?

A. May I have that read back to me, please?

Mr. Mellin: May the witness step to the chart?

The Court: Yes.

The Witness: May I have that question?

The Court: Counsel wishes you, as I understand it,—you may proceed to the chart—

The Witness: Thank you.

The Court: —to make use of Exhibit 13, for identification, the model, and Exhibit 14, for identification, the chart, and explain the mode of operation of the tester. Is that it?

Mr. Mellin: Yes, your Honor.

Q. By Mr. Mellin: And, Mr. O'Neill, is the model, Plaintiff's Exhibit 13, for identification, constructed in precise accordance, except on a smaller scale, with the Johnston tester as it is run today?

A. It is, sir. It is a quarter scale, I think, to a four-inch tool, as I recall, a quarter scale.

Q. Will you tell us now what the various figures on the chart, Plaintiff's Exhibit 14, for identification, indicate or illustrate?

A. If I may say one thing first about that patent there. The patent does not show the pressure recorder,

(Testimony of Frank E. O'Neill)

but [231] the model and the chart show the pressure recorder, and the pressure recorder is being run today, but it isn't shown in that patent.

The Court: By "that patent" you are referring to—

The Witness: The last number that was called off to me. If I may—

The Court: Exhibit 17-U, for identification?

The Witness: 17-U, for identification, sir.

Mr. Mellin: 17-U, for identification. [232]

The Court: Will you try to keep your voice up, Mr. O'Neill, so we can all hear?

The Witness: Yes, sir. We have the Johnston device diagrammatically shown on the left of the figure marked 1 at the top in the condition in which the device would be run into the well.

The Court: That is upon insertion into the well?

The Witness: Yes, sir, for the purpose of going into the depth at which we wish to make the test. The device is composed—

Mr. Mellin: Just a moment, I will get you a pointer. Mr. O'Neill.

The Court: Before you proceed in detail, why don't you tell us what Nos. 2, 3 and 4 indicate?

The Witness: I will, sir. In Figure No. 1 on the left, as I said, these valves are in the position that they would normally be in in being run into the hole.

Now, in Figure 2 the device is shown in the position in which we would find it when the packer had been set for the purpose of excluding this hydrostatic head above it, from the zone below it, which is the zone to be tested.

The Court: That is just before you admit the fluid for the test?

(Testimony of Frank E. O'Neill)

The Witness: Yes, just prior to admitting the fluid for the test. [233]

In No. 3 we find the tester in the same position as No. 2, with the exception that the trip valve, which I will describe and which is a valve that finally admits fluid to the chamber, has been opened and the test has commenced.

The fluid has access now to the receiving chamber.

In No. 4 we find the device in the position in which we would have it when the tools were being withdrawn from the well after the conclusion of the test with a sample trapped in the drill pipe or the tubing.

The testing device is composed of a series of valves; a packer, a perforated anchor.

Mr. Mellin: Now, that perforated anchor, Mr. O'Neill, is merely a piece of perforated tubing, is it not?

The Witness: It is merely a piece of perforated tubing, and the perforations are for the purpose of allowing the fluid to enter the tool and further for screening out any particles of shale or rock that might possibly plug some of the smaller passages within the tube.

Mr. Foster: Your Honor, I feel that this line of examination is objectionable in that it is redundant and unnecessarily encumbering the record since it relates only to the tester apparatus, which has already been covered by the testimony of Mr. Johnston with respect to his patents. This is not the combined tool subject to the suit.

The Court: This is an attempt, I take it, to educate the [234] court as to how the device operates, the tester?

Mr. Foster: But it isn't a tester that we are complaining of.

The Court: You are complaining of both of them?

(Testimony of Frank E. O'Neill)

Mr. Foster: Yes, that is true, in combination, but this chart here illustrates, as I understand it, only the tester.

The Court: I assume we will get the perforator later. Objection overruled.

I understand the fluid that goes into the tester has to go through the perforated anchor?

The Witness: Yes, sir.

The Court: It is sort of a sieve that separates the fluid from any large particles of shale or rock or whatever might be inclined to enter other than the fluid?

The Witness: That is correct, sir, because if particles, if large particles went in, some of the openings in the tool are quite small and they would plug the tool and the test would be ruined.

Below the perforated anchor we have the pressure recorder.

Now, the function of these different valves: The trip valve is a downwardly seating valve which is adapted to be locked, closed, and which may be opened at a later time when it is desirable to let the fluid into the upper or the receiving chamber. [235]

The main valve, so marked, is an upwardly seating valve. It is attached to the valve itself a mandrel passing upwardly through a housing and through this helical spring, which is interposed between the upper portion and the lower portion of the valve which two portions are telescopic with relation to each other and the helical spring keeps those two parts in a contracted position or in a closed position where the valve is held against its seat by the spring pressure.

(Testimony of Frank E. O'Neill)

The Court: All of that is illustrated in Figure 1 on Exhibit 14, the chart?

The Witness: Yes, sir; that is in Figure 1. The next item in the tool is an equalizing valve. I might say the purpose now of this main valve, however, is to trap the sample in the pipe after it has passed upward above the main valve.

The equalizing valve is also a telescoping type of valve of the sleeve type.

In the mandrel, which is tubular and passes through the interior of the housing, you might say, actually there are ports and in the housing there are ports which are adapted to be pulled into registry when the valve is in the expanded condition or position and which are adapted to be separated by packing when the valve is in a collapsed position.

The purpose of the equalizing valve is, primarily, to permit fluid when the valve is in its expanded position, to [236] permit fluid to pass through the ports in the housing and through the ports in the mandrel, which are in registry in that position, with the ports in the housing, and downwardly through the packer mandrel to be discharged through the perforated anchor beneath the packer in order to equalize the hydrostatic pressure above the packer and below the packer at the conclusion of the test, so that the packer may be released without having to pull against a differential pressure.

Q. By Mr. Mellin: By "differential pressure," Mr. O'Neill, you mean the pressure above the packer is very

(Testimony of Frank E. O'Neill)

much greater than the pressure below the packer under all normal circumstances?

A. Yes, under many tests—most tests. In fact, under normal circumstances, sir, it would.

The perforated anchor I have described—

Q. What about the by-pass valve in the packer, Mr. O'Neill? A. I don't believe I described the packer.

The next item would be the packer. The packer again employs a telescopic member. Between the telescoping parts there has been interposed some resilient material like rubber or canvas or any material that can be compressed and expanded laterally, with the idea that by letting the weight down onto the packer, when the packer has been supported from [237] below by means of slips which are provided for the purpose of biting into the steel casing and taking the load, that the telescoping member will expand—actually the telescoping retracts and the resilient member expands horizontally and pressed against the pipe with the idea of packing off the annulus between the body of the tool and the interior walls of the casing.

In the top of the packer there is a valve marked "by-pass valve" on the chart. That valve is for the purpose of permitting fluid to pass up between the sleeve, which carries the resilient member, and the mandrel of the packer, and pass out through that valve while the tool is being lowered into the hole so as to avoid a piston effect by the packer, because this casing packer fits the casing within $3/8$ ths of an inch normally of the diameter of the interior of the casing, so that leaves only about $3/16$ ths of an inch all the way around by which fluid could pass the packer as the packer was being low-

(Testimony of Frank E. O'Neill)

ered, unless there were by-passes provided. The by-pass valve has been provided for that purpose.

The casing packer could be visualized a little better by this model. These members here—

Q. You are pointing to the slips? A. Yes, sir.

Q. And you are referring to Plaintiff's Exhibit 138 for [238] identifications?

A. Yes, sir. These corrugated steel pieces known as slips, suspended by the slip rings from an anchor, are prevented from opening up until such a time as the pipe is turned in the hole to the left, turning a locking lug out of a jay slot and permitting that locking lug to drop down into a vertical slot.

These springs on the packer, referred to as "bow" springs are for friction purposes and when the tubing above and this entire device is run in on a string of tubing or a string of drillpipe, is rotated at the surface. the entire pipe and the entire tool, and the mandrel is rotated except the member held by the friction springs and that is held from rotation so that the packer may be set and then when the weight is lowered down onto the tool, the bowl of the packer, which is the member that fits inside the slips and which has several tapered surfaces. one for each slip, lowers in between the slips and the slips are pressed outwardly to grip the pipe in a form of friction or actually a biting of the pipe.

That, then, is the device by which the weight is supported when additional load is lowered to open the valves, the main valve, and to close the by-pass valve and close the equalizing valve. So in a casing packer the load is supported on these metal supports.